

Bob Cooper's

SEPTEMBER 15 2006

SatFACTS

MONTHLY



Reporting on "The World" of satellite television in the Pacific and Asia

IN THIS ISSUE

**Promax
Prodig5
'Ultimate' Meter**

**UPDATE:
Internet
Video/IPTV**

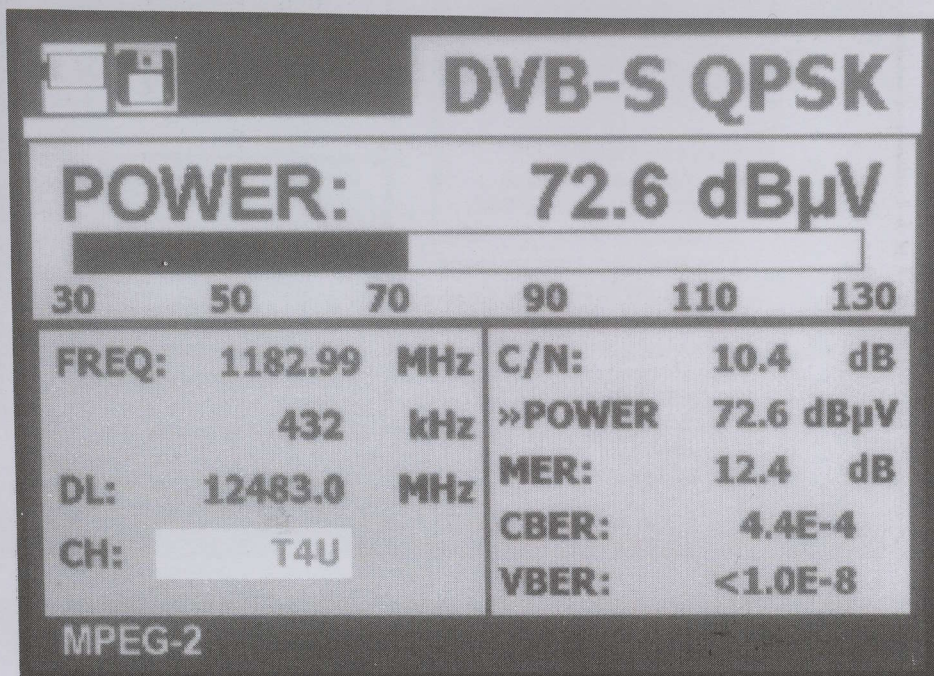
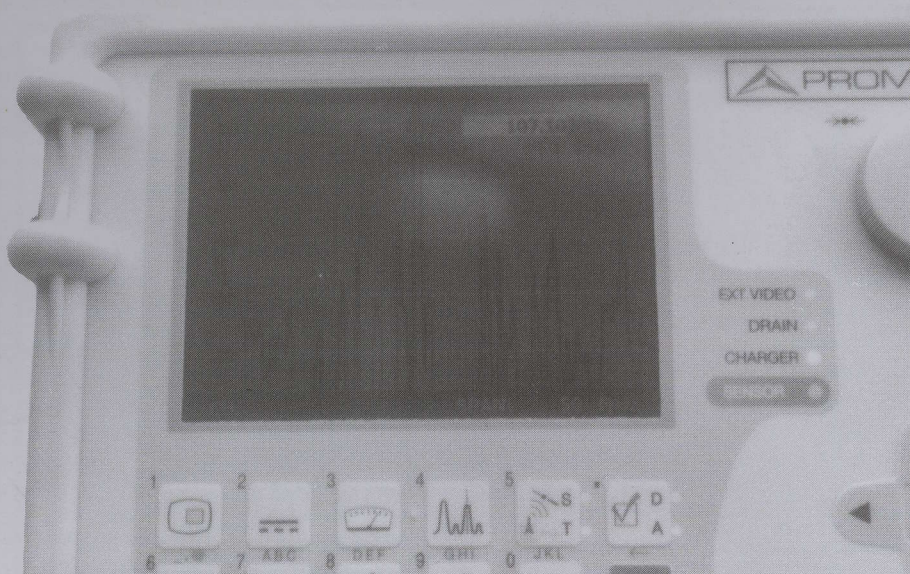
**New Zealand's
private
Uplink**

- ✓ Latest Programmer News
- ✓ Latest Hardware News
- ✓ HBO on Internet
- ✓ Observer Reports

Vol. 13 ♦ No. 145

Price Per Copy:

NZ\$10/A\$11/US\$/Euro8



Hualin Pty Ltd

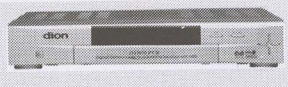
Satellite Equipment Specialists
Import and wholesale

Unit 51/159 Arthur ST Homebush West, Sydney Australia 2140
Phone: (02) 9763 1366 Fax: (02) 9763 1356
Email: sales@hualin.com.au Web: www.hualin.com.au

For all prices, product information and banking details please visit the website or phone us.

Specials this month

DT800PVR - Digital Receiver



- 40Gb HDD = 40hr Record time
- 2x CI CAM Slots
- DiSEqC 1.2
- **Fibre Optic Output Capability**
- Price: \$390 AUD + GST

Satlook - Signal Meter



- Digital, Analogue and combined versions available
- A must for the professional
- Simple menus and functions
- Price: Phone up for Quote

DreamMAX - DT470



- Irdeto embedded
- 4900 Channel Memory
- DiSEqC 1.2
- User Friendly
- Price: \$200 AUD + GST

Everything? Yeah we got

LNBF

- Zinwell C Band
- Zinwell KU Band
- MTI C Band, Superhigh gain
- One Cable Solution - C-Band
- Dual Output KU 11300 MHz

Positioners

- Superjack EZ-2000
- Superjack DP-6600, DiSEqC 1.0/1.2
- Technosat DP-200, DiSEqC 1.2
- Manual Actuator Driver - EW101
- SAP 2000: 99 Memory positioner

Actuators

- Superjack HARL-3618, 18" Actuator
- Superjack HARL-3624, 24" Actuator
- Superjack DG-120, H/H Mount

Receivers

- SuperNET CA, Irdeto Embedded
- Success, Free-to-Air
- Dion DT-370, Free-to-Air Receiver
- Dion 2x CI, Hardware AllCAMed
- ChangHong, Mediaguard embedded
- SuperNET Terrestrial, DVB-T
- Phoenix High Definition STB

Dish and mounts

- 1.2, 1.8m Solid Prime focus
- 45, 60, 65, 85cm KU dish Offset
- 2.13m, 2.27m, 2.4m, 3.0m, 3.07m, 3.7m, Mesh Dish, Light and Heavy Duty PSI and JOYSAT Available
- C-Band Wall brackets
- C-Band Concrete mounts and stands
- KU Gutter mounts
- KU Wall mounts
- KU Float mounts
- KU Tinroof mount

Dion 818 CI - Digital Satellite Receiver



- Slim Size and User Friendly OSD
- 2x CI (Common Interface) slots
- Hardware AllCAMed

SuperJack H-H Actuator, DiSEqC embedded



- All it takes is one coaxial cable....
- NO MOTOR CABLE REQUIRED**
- DiSEqC Positioner EMBEDDED!

Supernet - Terrestrial DVB-T



- Digital Terrestrial Receiver
- Slim Design
- High Quality Picture
- Easy to install and use

Dion316 - Digital Satellite Receiver



- FTA + Software Patched
- 4000 Channel Memory
- DiSEqC 1.0/1.2 Compatible
- Price: \$170AUD + GST

Switches and Splitters

- 2 and 4 way DiSEqC switches
- 0/22kHz switches
- 2 and 4 way cable splitters
- V/H Multiswitch
- 0/12V Switch

Cable - 15m, 25m, 305m packs

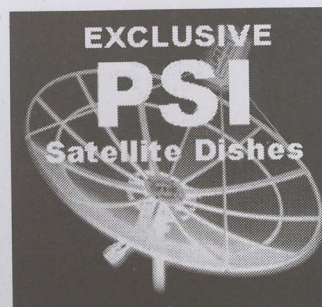
- RG6-U Dual Shield Coaxial Cable
- RG6-U Quad Shield Coaxial Cable
- Cat5 Actuator Cable

Plugs

- F Connectors, Screw or Clamp types
- Cable joiners
- AV Splitters
- Cable Strippers
- Cable clamps
- Various other joiners and accessories e.g. RCA/SCART cables and converters

Misc

- 2.4GHz AV Sender
- Irdeto 2.06B CAMs, Viaccess CAMs
- Satlook Digital Signal Meter
- Satlook Analogue Signal Meter
- Satlook Digital + Analogue combo
- Satellite finders
- Angle level measure instrument
- High Quality Compasses



SatFACTS MONTHLY

ISSN 1174-0779

is published 12 times each year (on or about the 15th of each month) by Far North Cablevision, Ltd.

This publication is dedicated to the premise that as we enter the 21st century, ancient 20th century notions concerning borders and boundaries no longer define a person's horizon. In the air, all around you, are microwave signals carrying messages of entertainment, information and education. These messages are available to anyone willing to install appropriate receiving equipment and, where applicable, pay a monthly or annual fee to receive the content of these messages in the privacy of their own home. Welcome to the 21st century - a world without borders, a world without boundaries.

Editor/Publisher
Robert B. Cooper (ZL4AAA)
Office Manager
Gay V. Cooper (ZL1GG)

Reaching SatFACTS

Tel: 64-9-406-0651
Fax: 64-9-406-1083
Mail: PO Box 330
Mangonui, Far North
New Zealand
Email -Skyking@clear.net.nz
http://www.apsattv.com

Subscription Rates

Within NZ: \$70 p/y
Australia: AV-COMM Pty Ltd.
PO Box 225, Brookvale.
N.S.W. 2100
61-2-9939-4377
Elsewhere: US\$75p/y
All copies sent airmail post.

The fine print
SatFACTS Copyright 2006 by
Robert B. Cooper: any form
of copying is a violation of
our international copyrights.
Advertising rate sheet
available, upon request.

our 13th year!

COOP'S COMMENT

Twelve years is a not insignificant chunk out of a lifetime. The number 12 is relevant to a number of events within our struggling industry. First and least important, September 2006 marks the start for year 13 of SatFACTS; issue #145. As most can work out, this is a labour of some affection on my part. It would be difficult to portray this as a business for if common business principals were applied to our receipts versus costs to produce, well - there would be no such thing as SatFACTS.

I went into Volume 1, Number 1 (available in our Anthology Set of all 144 issues) with no higher expectations. Anyone who takes a few minutes to peruse www.bobcooper.tv can quickly see I am driven, obsessed, to see satellite TV through to its natural conclusion (there will be one). It will be a race to see whether satellites become out of date before my use-by date. Indeed, my most recent (although perhaps not last) book, "TELEVISION'S PIRATES" (p. 32), is a chronicle of how all of this happened, against I might add significant odds and lots of legal opposition. And so we enter year 13!

The much more important element to years 12 and 13 is a man who, much like me, does not know when to say, "I quit." His name is Anthony (Tony) Dunnett and that would be him, 13 years after we first met in person (and admittedly looking it!) at the very first satellite trade show held in the Pacific; 1994 in Napier, NZ. Tony stood on a stage and explained to those unsuspecting minds that while he may not have "invented" satellite television in New Zealand, without his efforts it would have faltered and failed. I could not disagree with him then, nor now although there are certainly other legends (some still alive) who might.

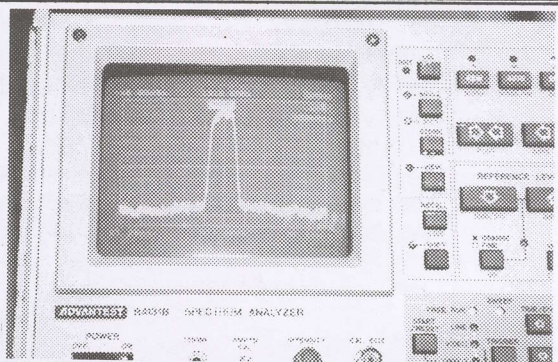
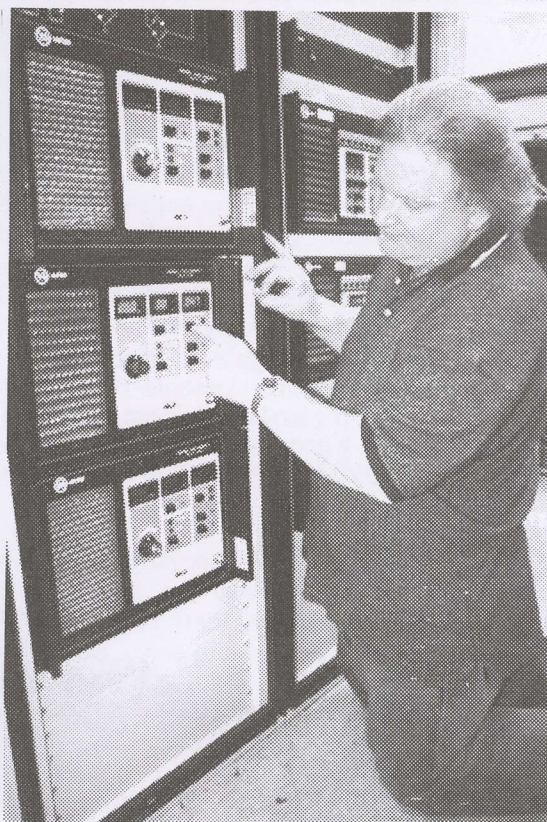
Dunnett is standing at the control panel of a massive uplink transmitter ready to push the "on-button" sending New Zealand's first independent "teleport" signal to a waiting satellite; NSS-5. The spectrum analyser image below is the result: 12.612V GHz, loud and clear, from Auckland to space, and back.

Now what? Good question and I know for a fact that while Dunnett and partners are considering all of their options, the game plan to become a minor (if not major) supplier of satellite programming to at least New Zealand (Australia is out of the footprint) is maturing on a weekly basis. What you might anticipate here are services from the likes of NASA, Europe, Russia and perhaps India - for a start. Initially, there is room for 12 programme channels with a hold on additional space for up to 36.

Dunnett's tenacity, his undying devotion to a cause, is to be admired. It is home-grown, Kiwi "bailing wire and chewing gum" in the finest form and while he might not yet be certain where this is headed, it is actually in motion and going *someplace*. Bugger!



September 15, 2006



In Volume 13 ♦ Number 145

Promax Prodig5 meter -p. 7

Look what they are doing to Internet video/IPTV! -p. 19

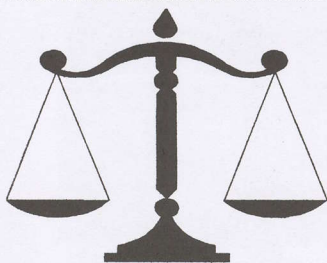
Departments

Programmer/Programming -p.2; Hardware/Equipment Update -p. 4; SatFACTS Digital Watch -p. 23; Supplemental Data -p. 26; With The Observers -p. 27

-On the cover-

Promax's latest installer/system meter: Prodigit5 - p. 7

SatFACTS Monthly September 2006 ♦ page 1



Missing VOA-POR

"I read with considerable discomfort on your 'Observer' page in August SatFACTS VOA is shutting down the 3.886 POR service on I-701. I could not find any reference to this on VOA's website and Google also produced nothing. So I contacted our VOA person and he wrote back, 'VOA is doing a reallocation of assets and dropping POR. The engineers suggest you take your signal from AsiaSat - sorry to be the bearer of bad news.' So, there you have it; September 30th is the last VOA on POR date, just as SatFACTS August reported!"

Hans Versluys, Triangle TV Auckland

With September's end just around the corner, a good opportunity to remind those using VOA that they will as a minimum be required to repoint their dish.

Fond memory

"I found www.bobcooper.tv and was enthralled to see so much of our industry's history there in plain view for me to download and enjoy. Someplace in my archives there is a photo of the very first Tracker IV with a Drake 240 interfaced to it - which became my basic sales tool as I travelled the country drumming up TVRO business. We last met around 10 years ago at the University of Auckland Tamaki Campus show put together by SatFACTS and SPACE Pacific; is there video of that show still about?"

Robert Partain CISR, California

Yes there is video from Tamaki which will over the next few months be converted to DVD for those who might have a nostalgic interest. And yes, we will look forward to seeing you in Atlanta at Satellite Expo 2007!

Is this for real???

A Japanese firm, NOVAC, is offering a US\$85 software operated 'TV adapter' for Skype VoIP so you can send any TV reception to a distant point; it 'tricks' the Skype network software into believing the video stream is a webcam. Is this real?"

William T. Conner

The software is real, the quality is, well, not great. But then we have dumbed-down TV with MPEG-2 so who is to say what is 'adequate quality' anymore? With 2.4" mobile handsets, now anything goes!

PROGRAMMER PROGRAMMING PROMOTION

UPDATE

SEPTEMBER 15, 2006

15 years young - August 6th. Back in 1991, a chap named Tim Berners-Lee released a short summary of his concept for a 'World Wide Web' (to become www) service using the then struggling alt.hypertext.newsgroup. This was the start point for what has become the most dramatic and compelling change in human interaction on planet Earth. Point in fact - this was *not* the start of Internet - "only" the kick-off for the "www system."

FTTH / Fibre to the home is the backbone for two major new housing projects in New Zealand; Taupo and Orewa. Approximately 1,200 new housing units in the two developments will have direct fibre connections allowing gigabit rates to be down and uploaded from each premise. Individual fibres will be dedicated on a per-home basis for specific service levels including one carrying a 950-2,150 MHz bandwidth connection to a single Sky dish that will serve the full facility. At the home end, California firm Alloptic is providing GEAPON (Gigabit Ethernet Passive Optical Network) hardware terminating at each home with an ONU (optical network unit) that will allow triple-play service (voice, data and video). Auckland firm Optical Network Engineering, Ltd. (John Nixon) is creating the system ([0]21 801110).

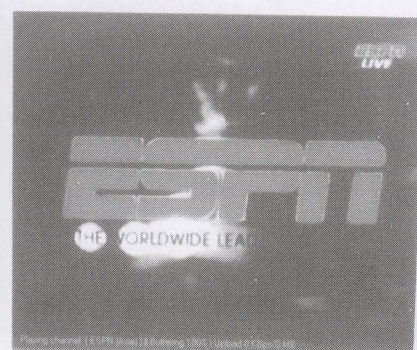
Speaking of Internet streaming - Auckland station Triangle TV, which recently added a new transmitter system in Wellington, is now available at <http://www.r2.co.nz/meta/tritv.aspx> (requires Window Media 10 software). And as we report (p. 18) the FTV (free to view) Internet world is exploding with significant CODEC improvements allowing really decent quality at download speeds well under 100 Kbps. ESPN "free?" Not once - but three programmes!

PAS-8 E! feed.

Service was discontinued on July 31, forcing PNG cable systems to move (with permission) to Optus C1 Foxtel or SelecTV PAS-8. Meanwhile in Fiji, Sky Pacific now takes feed from Indovision S-band feed. The Indonesian version of E! contains a wide selection of non-applicable (to Fiji) programming promotions that are a challenge while the Foxtel C1 and SelecTV feed is direct by fibre from Amsterdam to Sydney. The fed-by-satellite world is slowly but surely "closing in" on itself.

"TV Anywhere?" Google it and be amazed at several million web connections, most of which are offering fraudulent soft and hardware in the latest *frauds* to hit the TV reception world.

0004	ESPN (low)
0005	ESPN (high)
0007	ESPN (Sports)
0008	Tennis (E)
0014	Cartoon Network
0015	ABC
0016	CBS (low)
0019	ESPN
0021	Cartoon (E)
0023	HunanTV (E)
0026	CM TV (Brazil)
0027	Telecan (Italy)
0028	Kuwait TV3 (E)
0064	Realta TV
0065	Antena TV
0066	Class News (Italy)
0068	DW TV (Germany)
0069	Bloomberg
0091	CNN
0092	CNN
0093	CNN
0094	CNN
0095	CNN (low)



Smaller, Lighter, Unaohm



Measure strong and weak Digital and Analogue TV signals accurately with market leading functions that are easy to use and weigh less. Instruments that leave both hands free so you can ...stand on your hands.



Laceys.tvTM

42 Brunel Rd. Seaford VIC 3198

Tel: (03) 9776 9222 Fax: 9776 9766

e-mail: info@laceys.tv www.laceys.tv

Branches in Sydney, Ulverstone and Woolgoolga

New Zealand: Hills Industries (09) 274 6509

UNAOHM

Since 1935

Poor Man's Slingbox?

"I have been using a Hauppauge TV card in my PC for some years and while it is not perfect, it works very well. Now they have brought out "WinTV PVR2 Personal Video Recorder" which accepts your local or cable or satellite TV channels 'in' and creates a scheduled recording of same not unlike TiVO, except on your PC. And then - then it is software configured to allow you to resend those programs, on demand, out through Interweb to wherever you wish - such as you at a distant point, away from home. This is like the American designed 'Slingbox' except it makes use of your own PC so you can build in time delays between reception and retransmission. Is this the next frontier?"

Tim Rogers, Colorado

Anyone who still believes 'TV reception' is to a box in your living room/lounge from an outside 'aerial' runs the risk of being declared a 'relic' in the next year or two. We - this planet - are on the leading edge of total revolution for television and for those who do not have access to at least 128 (better 256) kbps telephone 'broadband' service will be left hopelessly behind. The day is now here when anyone with 256 into their home can not only receive thousands of TV services from the world, they can become one themselves. It all comes down the remembering what the descriptive word originally meant: Television = vision from a distance. How it goes 'that distance' is totally irrelevant to the end users.

C-Band days

"Remember the Spicer 8 (Square antenna - my first experience building an antenna, with Pat Spicer from Kansas)? At the Riviera satellite trade show (Las Vegas) we decided to do something different showing circular feeds from an inclined orbit Russian bird (Molniya). I remember Coop being amazed that we could pick up anything at that look angle and you reported with photos in the next month issue's of CSD. We also displayed how much better the RMS of our antenna was versus other exhibitors. We did this by placing a mirror on the end of an extended car radio antenna and running it over the surface of the antenna while holding the antenna focused on the sun. The mirror reflected back into the mouth of the feedhorn waveguide. None of the mesh antenna exhibitors dared try this one!"

Norman Bruner,
Patriot Antennas, USA

HARDWARE EQUIPMENT PARTS

UPDATE

SEPTEMBER 15, 2006

Mystery satellite that will not be. 'Eastsat,' a Korean company owned by Highgain Antenna Co., Ltd, filed application in 1995 to use 164E (yes, between B1/D1 and PAS-8) for L, C and Ku - 1530-1559 MHz, 3700-4200 and Ku 10.95-11.2 + 11.45-11.7 + 12.25-12.75 (GHz). They were granted permission to build and operate satellite from this location, subject to working out frequency co-ordination with other nearby approved operators. Eastsat had ten years to work this out or lose initial conditional approval for 164E. The ten years expired (February 2005). No satellite as ever commissioned thereby freeing up the location for some future applicant. 164E? Think about it.

Dreambox that is not. A Chinese company calling itself Dream Digital Technology (HK) - www.dream-box.cn - is offering a variety of FTA and CA products (S, T and C - cable) largely based upon the Austrian company of a very similar name. Dreambox (Austria) produces hardware which allows two or more to 'share' a single smartcard authorisation base. The original Dreambox attracted modest concerns from CA programmers although it was initially promoted as a 'one household-one subscription' box. Alas, that was before Internet suddenly developed the capacity to allow any number of distinct locations to 'share' the original subscriber's authorisation stream, far beyond the confines of a single household (where various internal wiring schemes link boxes together). The Chinese company appears to be exploiting the same technology (and trading on the established Austrian firm's name) - their literature includes the phrase, "*We can offer the technology to build a share server!*" An aside: The 'real' Dreambox firm will be announcing a FTA/Free to Air consumer version shortly; built for them in ... China!

"Hotel TV?" A brand new definition. Japanese firms are creating "lodging facilities" for Sony Location Free devices (like Slingbox) connected to signal sources (such as satellite TV) and Internet through fibre-optic high-speed connections. A Japanese court has ruled it is legal to operate a "lodging facility" for consumer's TV extension devices. The next plateau has arrived. A report in SF #146.

Arabsat major change. On October 1, the present ArabSat/ABSU feed on AsiaSat 3 (3880H) is shutting down, to be available only past that date on As2 (3820V_m 27.500, 3/4). This appears to be a change directed not by ABSO but rather by AsiaSat, attempting to 'balance' their transponder loading between As2 and As3S. There are/will be ten (FTA) channels here: Abu Dhabi TV, Jamahiriya Satellite Channel, Oman TV, Palestinian TV, Qatar TV, Saudi Arabian TV 12, Sharjah TV, Sudan TV, Syria Satellite Channel, Yemen TV (+ 13 Arabic radio channels).

A Lebanese born American operating a firm importing the controversial al-Manar TV channel to American homes has been arrested and charged with being a supporter of terrorism.

Phoenix Technology Group

Satellite Equipment & Accessories One Stop Supermarket



Phoenix 2.35m Motorized
Extra Heavy Duty Mesh \$180 each
Buy 10 get one Free!



Folding Arm Di
best dish for caravan &
35cm \$90 each "Mobile Kit"
64cm \$30 each "Wide Beam"
78cm \$48 each **Back in Stock**
88cm \$55 each
North Elev Bracket \$5 each



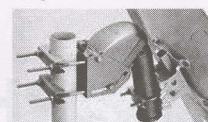
Phoenix 2800A \$100
The Best FTA Available
Quantity price available



Dreamax DT470 \$110
Irdeto 2 Receiver
Perfect For Selectv



Zinwell 15K
LNB \$25/each
for box of 24



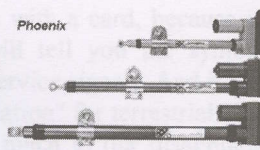
Moteck SG2100
Mo-



SuperJack EZ2000
Positioner \$60/each



Moteck V Box II
DiSEqC1.2 Positioner
\$65/each



Phoenix
Actuator from 12' standard
duty to 36' heavy duty
From \$35/each to \$220/each



RG6 305m
Dual shield
\$65/box
Quad shield
\$85/box

This Months Specials

Irdeto 2.06B CAM	\$110	PBI C+Ku band LNB	\$65
Viaccess CAM	\$110	Zinwell C band LNB	\$35
65cm Azure shine offset dish	\$28	Phoenix Ku band LNB	\$20
75cm Azure shine offset dish	\$40	MTI C band LNB	\$25
85cm Azure shine offset dish	\$45	MTI one cable solution LNB	\$45
One leg gutter mount	\$18	Satellite finder	\$25
Two leg gutter mount	\$22	RG6 striper	\$20
Tin roof mount	\$22	RG6/RG11 crimper	\$30
Wall mount	\$15	Angle meter	\$35
Superjack H-H motor	\$95	Compass High Quality	\$10
2.3m SD mesh dish	\$130	RG 6 Crimp Connector 100 pack	\$25
3m SD mesh dish	\$340	22K switch	\$10
3m HD mesh dish	\$380	Two way DiSEqC switch	\$10
3" 2.5m galvanised pole	\$30	Four way DiSEqC switch	\$12
3" 3m galvanised pole	\$35	Satellite 2 way splitter	\$1.50
3" 3.5m galvanised pole	\$40	Satellite 3 way splitter	\$2
3" Triangle Pole for C band dish	\$50	Satellite 4 way splitter	\$2.50
Speaker Stand for caravan use Ku dish	\$45	Prosignal LED Easy to use Satellite Meter	\$85

Best performance



Made U.S.A

Paralipses 1.2m prime focus panel dish

\$160/each
AZ/EL mount \$32/each



Easy transport

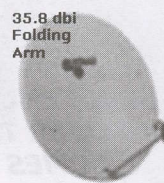
Last
stocks of
mesh
dishes
from USA

Paralipses 2.6m mesh dish

\$1500/
(300/each x5)

Triax 64cm KU Dish The Easiest Dish To Align on The Market

Wide Beam Width
\$30ea

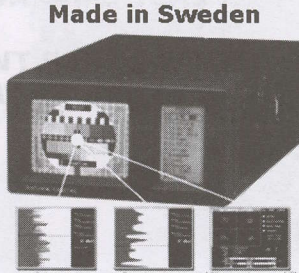


35.8 dbi
Folding
Arm

SATLOOK Digital NIT

\$1395

- Satellite-receiver 920-2150 MHz.
- Spectrum-analyzer with expanded spec-
- trum.
- Digital BER, QPSK and S/N-ratio.
- 4.5" B/W monitor for PAL/NTSC/SECAM.
- Tuneable sound 5.5 - 8.5 MHz.
- LNB voltage 13/18v. 22 kHz tone switch.
- DiSEqC control (1.0, 1.1, 1.2)
- KU- and C-band (normal/inverted video).
- 99 memory-positions for spectrum pic-
- tures.
- Satellite identification.
- Symbol rate 1-30 Msymb/s.
- RS 232 for PC connection
- Built in, rechargeable battery.
- Only 5 kg complete with carrying-case.



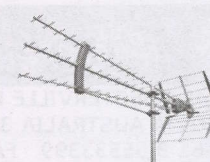
Made in Sweden

Phoenix Technology Group

Exclusive Coship
Distributor for:

**Australia
New Zealand
Papua New Guinea
Fiji
& The Pacific Islands**

Highest Gain Teleses
UHF Deep Fringe
Antennas
Instock Now



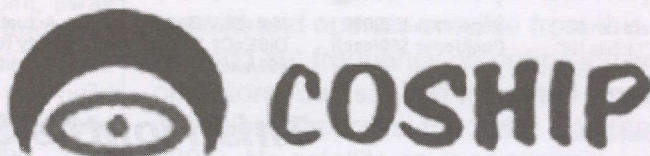
New Dealers Required Australia Wide

21/148 Chesterville Rd. Moorabbin VIC 3189
Website: www.ptv.com.au

Phone: (03) 9553 3399 Fax: (03) 9553 3393
E-mail: sales@phoenixtelevision.com.au

PHOENIX TECHNOLOGY GROUP

EXCLUSIVE



**SATELLITE PRODUCTS DISTRIBUTOR
FOR
AUSTRALIA- NEW ZEALAND- FIJI
&
THE PACIFIC ISLANDS**



COSHIP 5110D IRDETO 2 RECEIVER

**LICENCED IRDETO SOFTWARE
OVER THE AIR UPGRADING
COMES PRE-LOADED WITH PAY TV &
AURORA TRANSPONDER DETAILS**

**AUTO LOADING & UPDATE
GLOBECAST RECOMMENDED
EASY PIN NUMBER SET UP
EASY CARD ACTIVATION**

**SUITS: SELECTV, AURORA, UBI, WORLD MEDIA, AUSTAR, TVBJ, HTR,
SIGRAM, VISION ASIA, TV POLONIA, MY TV PLUS, ABS-CBN, CONNECT TV, TV PLUS**



21/148 CHESTERVILLE RD MOORABBIN
VICTORIA AUSTRALIA 3189
PH +61 3 95533399 FAX +61 3 95533393
E-mail: sales@phoenixtelevision.com.au
Website: www.ptv.com.au
FOR YOUR NEAREST DEALER CALL



Time to get serious about your field skills: The Promax PRODIG-5

NZ\$6,000 is the level of commitment most folks reserve for a service vehicle or family car, not a 2 kg weight device you hang around your neck while balancing on a ladder or roof to adjust a satellite TV antenna. There are far less expensive options, some under \$500, which speed up your SKY NZ, Austar/Foxtel/Aurora installs and provide most of what you need to know to get paid for your efforts. So why consider something so expensive, and so high-tech that it has few if any peers?

The answer is complex. For a few, owning a device which reviews (such as this one) proclaim for its variety of features and ease of use is enough. For most, \$6,000 is not so easily budgeted and there needs to be justification, *lots of justification*, for such an investment. For still others, starting out as a trainee pay-TV installer, learning the ropes to a fully qualified installer, is but a stepping stone to making *real* money by doing things which SKY NZ trainees will never be able to accomplish. The TV Explorer/Prodig5 is a tool which separates you and your work from those who aspire to nothing higher than \$75 payments in return for hanging a 60cm dish on the roof or side of a customer's home. This, and similar function instruments from Unaohm, is the end of the trail; it doesn't get much better than this! So think of this review as a target or goal, something to strive for as you gradually increase your skill levels and realise that hanging a 60cm dish for \$75 is not the end of the opportunities beckoning you.

What it is not

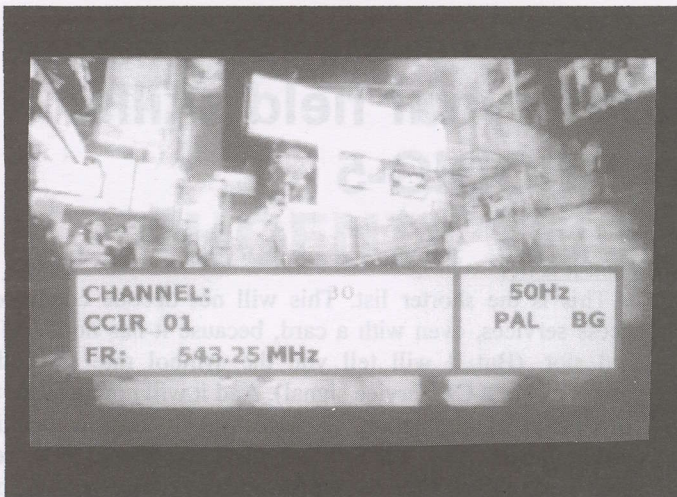
This is the shorter list. This will not decode conditional access services, even with a card, because it has no CAM or card slot. (But it will tell you the symbol rate and other parameters of a CA service signal). And it will not measure the "percentage of modulation" for terrestrial video (or companion audio) signals. And, much to our disappointment, for a 'real' cable system, this may not be the correct choice, as we shall explain.

What it will do

Essentially, it does everything else whether you are dealing with a simplistic one-dish/one LNB install or a complex wiring job for a multiple outlet facility. Prodig5 (P5) measures the actual signal level, computes the BER (bit error rate), and advises you of the presence of any cross-pole signals. This is a triple-threat instrument: (1) A TV receiver (with a colour display screen) for terrestrial (analogue or digital), or, satellite signals (C, C+, Ku); (2) A spectrum analyser covering the full terrestrial through L-band satellite spectrum (46 MHz to 2,150 MHz); and, (3) a measurement meter that advises actual signals levels, even the video carrier signal to noise and for terrestrial signals the ratio of carrier levels between the video and audio signals (we'll explain). And, it operates on Li-ion rechargeable batteries (approximately 4.5 hours per charge). Plus it fits into a case that includes a wide strap to suspend around your neck with the case doubling as an "anti-shock

Phil Morris, Gough Technology (distributor for Promax) at SatFACTS begins our tutorial of Prodig5 meter





(Analogue) essentials: Frequency (543.25), signal level (64.5 dBuV with bar indicating level change), carrier to noise ratio (43.3 dB) and dB ratio between channel's video carrier and aural carrier ([-] 17.8 dB).

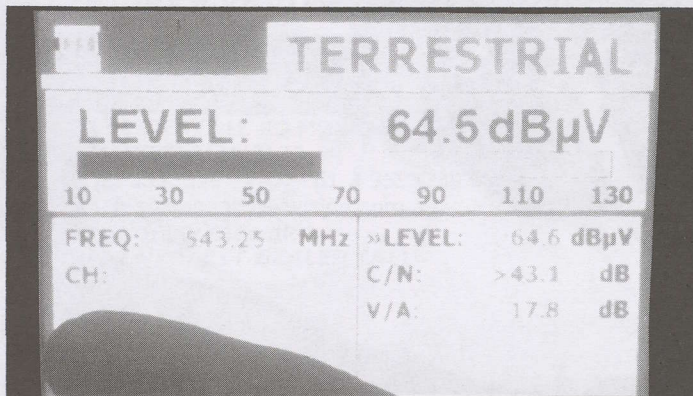
mount" should you be careless or foolish enough to drop \$6,000 off of a roof (still not advisable, in our opinion!).

Any instrument that does so much might be expected to require a training course to operate. A CD packed with the P5 is some of the training you will require because the people who designed it appear to have actually taken prototypes into the field to acquire potential user feedback, resulting in "one-button function selection." Again, we will explain.

Step One

Think of "blind scan." That's what a STB does if you ask it to go MHz by MHz through the satellite L-band (950-2,150 MHz) searching for every TV carrying signal through a particular satellite. Blind Scan is an act of "exploration," finding, identifying, and logging every SCPC or MCPC signal found. Prodig has "blind scan" but it is not limited to satellite, adding terrestrial VHF and UHF (including FM) as well. And it has a number of user-assigned memory positions so you can select a name to record whatever the meter locates during blind scan in any location you happen to be working. Sydney proper? Call that memory "Sydney" in the terrestrial mode. Wallangong? A new set of terrestrial TV carriers, and a new memory position name. Once entered, you can update any memory position as new terrestrial transmitters come on the air, revising the mix of analogue and digital in the process. And satellite?

Video display, at your push-button option, identifies channel (30), channel format (CCIR 1), Frequency (543.25), PAL standards (B/G).



The Prodig5 - What it is and what it does

The subjective name for the Promax Prodig5 is "The Explorer" which describes its "blind search" capability (they call it, "registration"). First you select a 'band' (terrestrial, satellite), and push a button. One button.

Auto identification: All signals in the selected band
Simultaneous measurements: Virtually everything to know about each signal found

Direct video + audio: Displays picture, service list

Auto selection: MPEG-2, MPEG-4, analogue, COFDM and more

Spectrum analyser: One button push to switch from TV reception to spectrum display with user selected "skins" (analyser on screen colour displays)

Frequency coverage: 45-865 (terrestrial) + 950-2150

Frequency plan memories: Yes

Level measurement range: maximum 130 dBuV (1V)

Satellite: QPSK/30 dBuV > 120 dBuV

Terrestrial: COFDM/10 dBuV > 120 dBuV; QAM/45 dBuV > 110 dBuV

Ful-Lock Threshold: 40 dBuV (100 uV; adjustable)

TV Standards: PAL, NTSC, SECAM (6, 7 and 8 MHz bandwidth)

Digital: COFDM, QPSK, QAM

COFDM: 2k/8k: MER, VBER, CBER (guard interval 1/4, 1/8, 1/16, 1/32 with code rates 1/2 > 7/8)

QPSK: CBER, MER, VBER (2-45 Mbauds; 1/2 > 7/8 + auto)

QAM: 16/32/64/128/256 (1000-7000 kbauds); BER, MER

Measurement bandwidth: 230 kHz terrestrial, 4 MHz satellite

Automatic signal identification: Yes

Automatic: Identifies COFDM, QPSK, QAM + PAL, NTSC, SECAM

Satellite operator identification: Yes

Audio tone warble for signal peaking: Yes

Digital power measurement:

C/N (carrier to noise) measurement:

Signal analysis: 3 push buttons for instant access to (1) Measurements, (2) Spectrum analyzer, (3) Signal demodulation

V/A (video to audio analogue) measurement: Yes

Accuracy window in terrestrial mode: +/- 1.5 dB

Accuracy window in satellite mode: +/- 2.5 dB

Digital service list: Yes

Video/Audio PIDs: Yes

MER, BER or SNR in QPSK (satellite): Yes

MER, BER in QAM (cable): Yes

CSI, MER, BER in DVB-T (terrestrial): Yes

Impulse noise analysis (terrestrial): No

RDS logging for FM radio: No

Analogue video/audio: (Yes, satellite and terrestrial)

Spectrum span: Full band, 500/200/100/50/32/16 MHz (+8 MHz terr.)

Marker: Dial-up (one T, 3 S) with frequency, level display

Colour screen: TFT LCD 5"

Weight: 1.9kg less shock case

Size: 230mm x 161mm x 76mm

Battery: Li-ion, 7.2V 11Ah

Battery operating period: full charge, up to 4.5 hours

Recharge time for battery: 80%, 3 hours

12VDC car lighter recharge: Yes

SCART connector: Yes

RS-232C port: Yes

Datalogger to PC: Yes

Firmware updates: Yes

Remote control & Config: Optional extra

Monitoring/Alarm software: No (*)

LNB powering with 22kHz: Yes

Terrestrial masthead powering: 5V to 18 / 24volt DC

DiSEqC: 1.2

Protection: Plastic carry bag, optional extra shock case

Sources: Gough Technology NZ www.goughs.co.nz

Electreocraft (Australia) 61-2-9438-3266

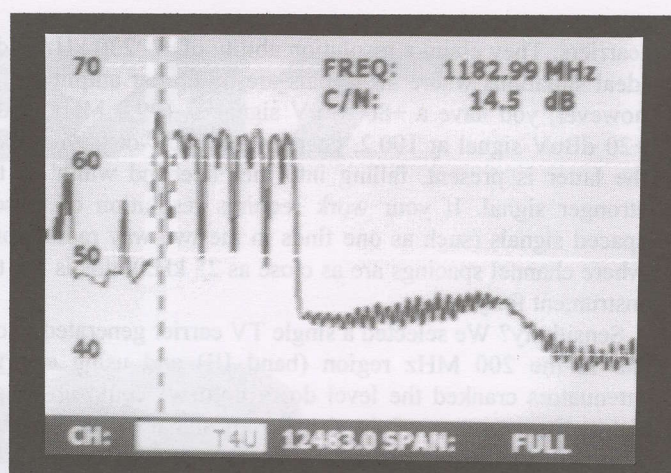
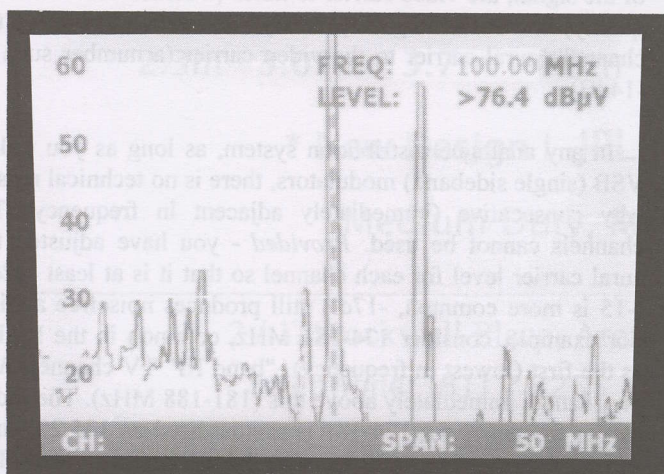


Terrestrial spectrum display clearly indicates each video, colour, aural carrier. Dial-able 'marker' (dashed line over left hand carrier) results in readout upper right (55.33 MHz, 69.2 dBuV).

Same procedure. Select a satellite, use DiSEqC (1.2) if you wish (it is built in) and ramble through a complete scan allowing Prodig5 to find, identify and catalogue each SCPC or MCPC found. You could do this with a 60cm dish on say B3, assigning a memory name (such as B3-60), and then with a 3m do it again (call this one, B3-3m). Now you have two B3 references for future use.

This "data base" approach makes Prodig5 an instrument that simply cannot go "out of date;" anytime you suspect something new has been added to the airwaves, just push the single "explore" button and the meter will compare the existing memory to the current conditions in your area. Once you have memory positions created, the push-button access approach lists the found signals on the screen (just like a blind search STB will do for satellite-only) and you use a rotating knob to select an individual transmission. When the 'icon' selects a particular channel or signal, push a button and instantly there it is. With all of the measurement parameters overlaid on the screen. For satellite (DVB-S), that would include the usual Msym, FEC numbers, the actual signal level, and a computed set of numbers: VPID + APID, video format (16:9 or 4:3), SID and NID, the video format (MPEG-4, MPEG-2), satellite name and channel number, and, the format of the video output (such

FM band spectrum display - in quiet rural area. Marker (centre) indicates very-local FM transmitter 100.0 at level of 76.4 dBuV.



Satellite spectrum display (B1V as seen in New Zealand). Marker (left hand side) lays over carrier identified as T4/U/1182.99 L-band, 12,483 Ku producing C/N of 14.5 dB

as "component"). And more: CBER, C/N (carrier to noise level), signal power (measured in dBuV), MER and VBER.

For DVB-T, Prodig5 identifies the TV transmitter (location), any additional transmitter data, the C/N, signal power in dBuV, the MER, CBER and VBER plus the channel frequency in MHz and channel number. In both satellite and terrestrial, the information can appear alone on the screen, as an overlay on the actual demodulated video (plus audio of course), or without the data - just the reception image displayed. Push buttons are incorporated for any function - nothing complex about this to operate.

Because this is a full receiver, the 5" TFT LCD colour screen shows you precisely the quality of the reception, including the sound. The receiver's automatic circuits determine the receive parameters including locating the sound carrier offset frequency making it almost impossible to screw up in the field.

The spectrum analyser

If you have begun by doing a blind search (registration, in their language) of all signals available (DVB-T or DVB-S), by selecting that particular memory position and connecting an appropriate antenna (LNB), the spectrum analyser mode is ready to go. A front panel button selects this mode while a quad-set of arrow-marked buttons allow you to vary the vertical screen reference level(s) by + or - 10 dB (the up and down arrow). The +10 dB position allows measurement of very strong signals while the -10 dB allows you to see the weaker signals normally lost in the noise clutter at the bottom of the display. The screen's nominal dynamic range is 90 dB (at 10dB per division). In spectrum display mode, two sweep rates allow a "faster" display update for antenna peaking.

The left and right arrows allow juggling of the centre frequency display reference; right squashes the display so it covers a wider frequency range while left does the opposite - allowing you to zero in on just a single terrestrial carrier or SCPC/MCPC service. The display is unusually sharp/clear using a combination of a green background and yellow display (with optional 'other' colours).

Resolution? One of the quicker tests is to set the spectrum display up covering 88.0 to 108.0 (FM broadcast) where NZ makes maximum use of the 20 MHz spectrum by alternating in 100 kilohertz steps in adjacent market regions. We found the PRODIG5 was satisfactory in handling these closely spaced

carriers. They claim a resolution ability of ± 230 kHz under ideal situations where all signals are of similar amplitude. If, however, you have a +80 dBuV signal at 100.0 MHz, and a +20 dBuV signal at 100.2, chances are you won't even know the latter is present, falling into the 'sideband width' of the stronger signal. If your work requires resolution of closely spaced signals (such as one finds in the two-way radio world where channel spacings are as close as 25 kHz), this is *not* the instrument for you.

Sensitivity? We selected a single TV carrier generated in our lab in the 200 MHz region (band III) and using external attenuators cranked the level down until we could no longer detect the presence of the (analogue) signal on the display. This was a 'barefoot' test with only the test signal entering the meter. The sensitivity threshold we measured was 16dBuV in the spectrum analyser mode, 20dBuV in the direct demodulator mode. As a practical matter, *analogue* terrestrial TV signals that measure in the 20dB carrier to noise region are (in the language of a decade ago created for satellite reception) "P2 to P3" - they can be watched but only with determination. However, digital DVB (T) is another matter. The latest 5th generation LG terrestrial decoding chips manage to produce noise and blemish free reception for levels down to at least 20 dB carrier to noise. So here is a learning curve you will have to sort out for yourself - there will virtually always be a "difference" between the decoding threshold of the PRODIG5 and the permanent STB you will connect to after antenna installation and alignment. In some circumstances, the meter will produce perfect decoding while the STB will not. And the reverse will also occur. In a sense, if your STB fails to decode when the meter does (in either mode), perhaps it is time to evaluate a different STB!

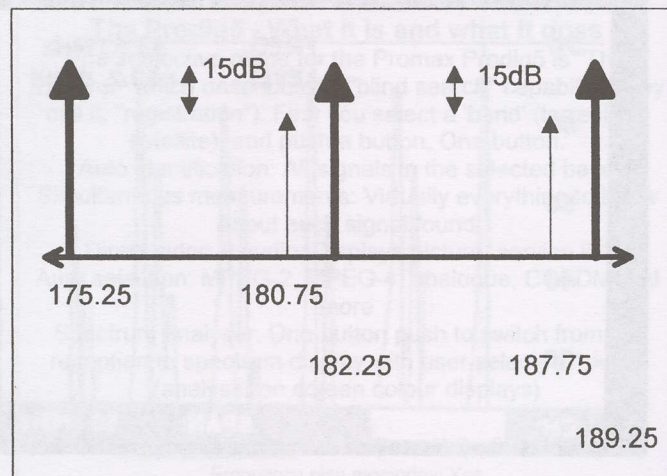
Oh yes - the Prodig5 has a built-in DVB-T "noise margin" on screen display advising you of the margin remaining between your antenna delivered and measured signal, and, loss of "digital lock" (as represented by the 'sensitivity' of the meter). This number appears on the screen automatically, a handy way to know how much 'terrestrial reception *margin*' you have remaining, whether at the antenna proper or any point within the distribution system. This will prove very handy when motels, hotels and other commercial establishments begin their inevitable (even if they don't presently recognise the expenditure coming their way) transition from an analogue distribution system to a digital system for satellite or terrestrial fed services.

The MATV/SMATV/CATV measurement world

This is where you will begin to realise the value in having proper instrumentation. In any distribution system, the original ("headend" in the language of the trade) signal(s) are distributed through coaxial cable to individual receivers. Falling between the headend and the TV receivers will be multiple F connectors, passive devices (splitters, directional taps, slope attenuators), and amplifiers. Laying out (planning) a system requires some math to calculate minimum and maximum signal levels within the system, by frequency and dB of "loss" between the headend and individual receiver outlets (1).

Assuming a MATV/CATV type of installation, you would begin by calculating these "losses" versus frequency (the higher the cable frequency, the greater the dB of loss between

1/ See Bob Cooper's 'TV Reception Addendum' CD for MATV/CATV system planning and layout aids.



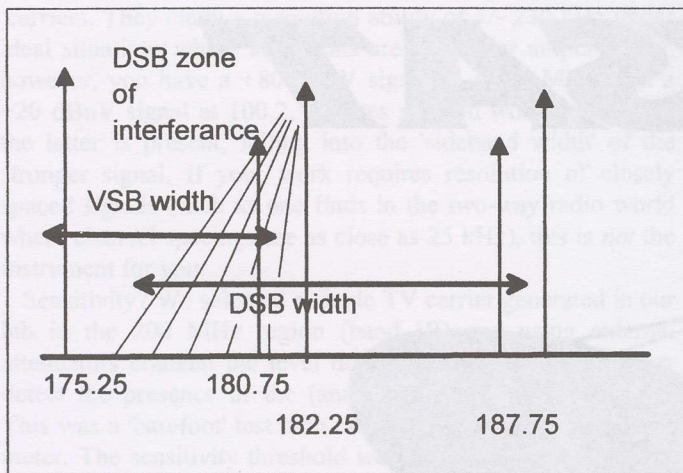
By turning down the "aural carrier level," the lower channel's sound modulation no longer creates as (herringbone) pattern of interference on the next upper adjacent channel (below).



any two points) and doing an "initial setting" of the various channel amplifiers/modulators. A properly designed headend has at least one "all channel" test point where you can in months and years ahead plug in an instrument (such as the PRODIG5) to confirm that individual channels are operating at signal output voltages as planned and adjusted. With the headend operating in test mode, start here and load the PRODIG5 with all of the channels in the system creating a new memory position (such as, "CableHE").

The P5 will display each analogue channel service and tell you the actual signal level through the test point, the frequency of the signal, the video carrier to noise (a measure of the video quality) and something very handy - the ratio (in dB) of the channel's aural carrier to the video carrier (a number such as -14dB).

In any analogue distribution system, as long as you utilise VSB (single sideband) modulators, there is no technical reason why consecutive (immediately adjacent in frequency) TV channels cannot be used. *Provided* - you have adjusted the aural carrier level for each channel so that it is at least -12dB (-15 is more common, -17dB still produces noise-free audio). For example, consider 174-181 MHz, common in the Pacific as the first (lowest in frequency) "band III" TV channel. And the channel immediately above this (181-188 MHz). The video carrier frequency for 174-181 is standardised on 175.25 while the aural carrier is at 180.75; plus 5.5 MHz from video. The



next up channel (181-188) has its video frequency at 182.25 and the audio falls at 187.75.

Terrestrial transmitters typically operate with the video power and audio power offset (audio being lower in power) by between -6 and -10dB. If this as-received off-air ratio is placed directly into 174-181 MHz, there are virtually no consumer TV sets that can successfully extrapolate the 182.25 video signal from the lower 180.75 audio signal. The TV set was simply never designed to have enough channel -to-channel selectivity to ignore the powerful lower channel audio carrier. The result will be an interference pattern (typically looking like something the trade calls a "herringbone pattern"; photo p. 10) falling into and on top of the 181-188 MHz channel.

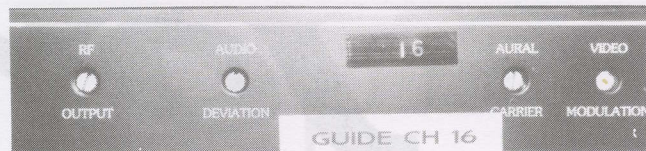
However, if the 180.75 MHz audio carrier is reduced in amplitude (strength) to a point where it is -15dB (reference its own 175.25 video carrier), the interference will disappear in all but the most seriously design-flawed consumer sets. And viewers will still enjoy the same quality of audio from 180.75 simply because they retain sufficient audio recovery ability to handle a weaker aural subcarrier.

This, then, is the "secret" that explains why cable distribution works without interference between adjacent channels. But it only works if the headend modulators have been designed for "adjacent channel operation" - meaning they are VSB (vestigial sideband) rather than DSB (double sideband). This design difference eliminates the unwanted, not used, extra (DSB) channel width which creates a mirror image of the video signal that falls downward (in frequency) into the lower adjacent channel (diagram, above). A VSB modulator for 181-188 MHz confines its transmissions to between those two points in the spectrum: 181 at the low end, 188 (MHz) at the high end. A DSB modulator for the same channel actually generates out-of-channel information that shows up as energy falling *below* 181 MHz, such as 176 to 181 MHz. The energy falling out of 181-188 (176-181 in our example, above) creates interference in the lower adjacent channel (174-181 MHz)

The P5 tells you precisely what the aural carrier level is for any channel which in turn provides a measurement display allowing adjustment of the modulator's "aural carrier level" control until it registers -15 (to -17)dB. Bingo, you have interference-clean adjacent channels.

Having gone this far, it is perhaps regrettable Promax did not also build in two more measurement displays: The video modulation percentage, and, the aural modulation level (if not percentage). About which...

When you feed raw (demodulated) video and audio into a channel modulator, the modulator has either been designed for one specific channel or you have controls (dip switches) to



Modulator set 'n forget controls establish channel operating parameters

adjust its' agile design to one specific channel. That sets the operating frequency. There will be four more controls built into the modulator:

1/ *Video carrier signal level* (usually a continuous turn pot covering a range of 20+ dB allowing you to adjust the output level to the system based upon headend and system design)

2/ *Aural carrier level* (another continuous turn pot which you set to the region of -15dB as previously described while reading the display on the P5)

And the two adjustments which the P5 cannot help you with:

3/ *Video modulation level* (adjusting the "percentage" of video modulation [intensity of the image]); 87.5% is a benchmark here

4/ *Aural modulation level* (again, adjust the "percentage" of audio modulation [indirectly, the "loudness" of the sound]); 90-100% is the benchmark.

Lacking the ability to "measure" the video and aural modulation, the standard practice is to use a TV set monitor in the headend and start by adjusting the video modulation upwards until the whites saturate (go into a bleached looking display) - a point usually also causing an annoying "buzz" to appear in the companion audio (it is an artefact of too much video modulation that creates sync pulses spilling over into the aural carrier region, producing the "buzz" noise). Having found "bleached white"/"buzz," you then turn down (typically counter clockwise on the pot) the video modulation by some observed amount. Not very scientific but then the stand alone equipment to actually measure and set the video modulation costs more than the P5 so that's how it is done, even by professionals (a few very expensive cable grade modulators have "video modulation" readout displays built-in, aural modulation percentage is a very rare in-built measurement).

Having *guessed-at* the video, that leaves the audio. The clue here is "loudness" of the program material. Audio modulation adjustment is akin to a volume control on a receiver - clockwise increases the volume. Alas, the volume control on the monitor TV receiver is part of this chain reaction and ultimately the best you can do, lacking appropriate measurement equipment, is to go channel-to-channel-to-channel adjusting each individually so that when viewers switch their TV sets from channel to channel, the volume sounds more or less *the same* on each channel. This could be at 20% modulation or 80% or even higher - but lacking an instrument to know where you are between 0 and 100, all you can do is guess (exceeding 100% will cause distorted audio in most TV sets while 0% will be no sound at all!).

So is this a failing of the PRODIG5? Not at all - it is merely a serious suggestion for the next version meter Promax or Unaohm produce for MATV/CATV an instrument that allows the headend to be properly set-up; *modulation included*.

Tracking system degradation

Returning again to the P5, the 0.1dB accurate signal level measurement possible on every channel carried within a cable distribution system is nice but the really special reading which



ELECTROCRAFT AUSTRALIA

CCTV, SATELLITE, TV ANTENNA, SECURITY & DATA SYSTEMS

**For all your TV and
Satellite equipment.**

NSW

ARTARMON

T:02 9438 3266

BLACKTOWN

T:02 8811 5155

KINGSGROVE

T:02 9150 6033

BERESFIELD

T:02 4964 4948

QLD

NERANG

T:07 5596 5533

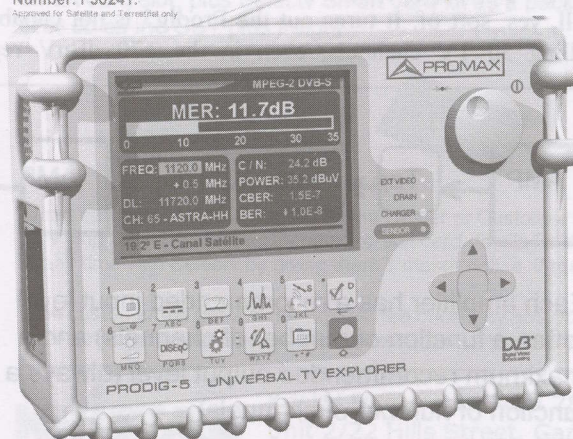
WA

BELMONT

T:08 9478 6411

SCHMIDT & MULLER
(TELECOMMUNICATIONS) PTY LIMITED
Trading as ELECTROCRAFT

PRODIG-5 Foxtel Installer Product
Number: F30241.
Approved for Satellite and Terrestrial only.



**Set Top
Receivers
Cable
LNB's
Tools
Connectors
Dishes
Mounts**

THE TELEVISION EXPLORER

**The evolution of the field
strength meter : PRODIG-5**

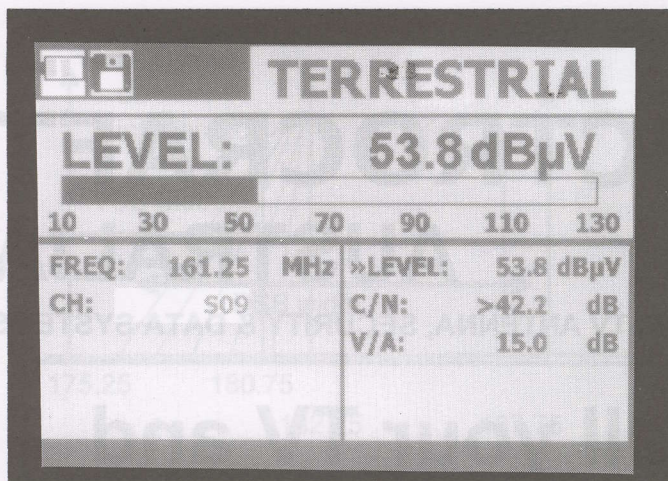
PROMAX continues to revolutionise the television field strength meters market. The **PRODIG-5** is a new meter that changes the way users make and understand signal measurements.

With the press of a single button, the **PRODIG-5** can explore the signal you are tuned to and work out all the transmission parameters, analogue or digital!!

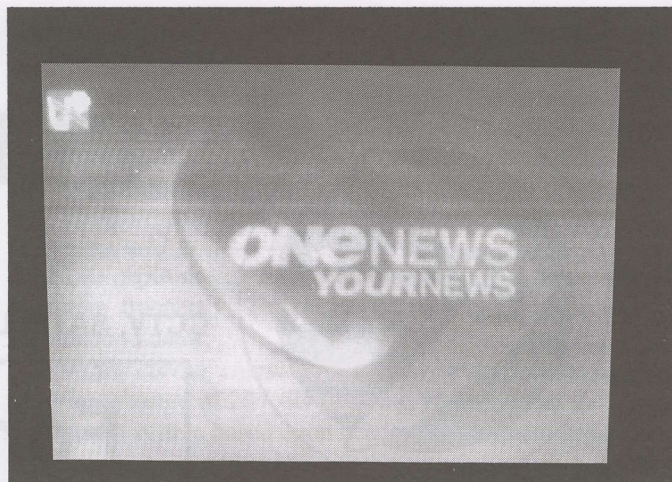
And it can display the picture; cable, satellite or terrestrial, analogue or digital*!

All this is a meter that is much smaller and lighter than competitors with similar features.

* No picture for encrypted signals. The service list and PID is displayed.



Hidden jewel - video carrier to noise ratio is calculated, calibrated by P5 for user reference.



"Saturated amplifier" icon warns of degraded video at amplifier location (output); upper left.

you will shortly depend upon is the video carrier to noise ratio on a per channel basis.

Once the headend is functional, the multiple channels wind their way through loss-producing cable, connectors, splitters, directional taps and gain producing amplifiers. Here the P5 has done something quite handy; an on screen icon that pops up whenever an amplifier is "saturated." Which means what?

"Saturated" is what happens to a cable system amplifier (whether in a hotel, large house or community wide system) when the amplifier gain plus the input level to the amplifier are out of whack; too much of one (input for example) or both (and gain). As SatFACTS has covered in some detail, previously, an amplifier of any classification has some "maximum" numbers attached to it. If the maximum output for a single channel is 110 dBuV, and the amplifier has 30dB of gain, then the maximum input to the amplifier will be 110 - (minus) 30 or 80 dBuV. Most amplifiers pass more than a single channel and for each doubling of channels (1=2, 2=4, 4=8 and so on) there is as a rule of thumb: a 3dB reduction in maximum output capacity. Therefore an amplifier rated at 110dBuV for a single channel will have to be derated to 107dBuV with two channels, 104dBuV when passing 4 channels, 101dBuV when 8 channels - and so on. That is -3dB for each time the total number of channels goes up by "x 2."

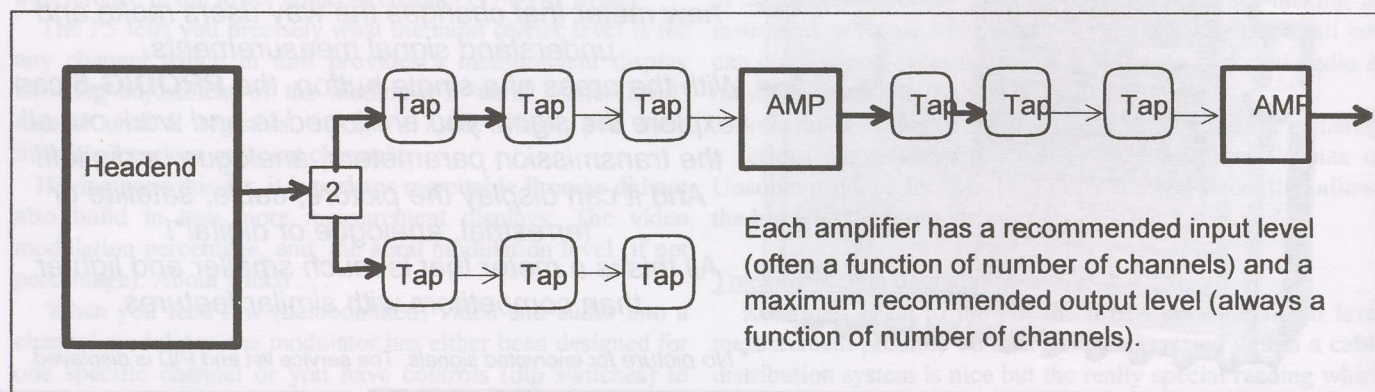
And that is the best case. When for example, there are 12 channels passing through the amplifier between 40 and 890 MHz, and 11 of these arrive at the amplifier in the region of 70 dBuV while one is accidentally 80 dBuV, guess what happens? The +80dBuV super-hot channel creates amplifier induced interference (termed "cross-mod" for cross-modulation, in the trade). The super-hot channel "saturates" (the key word, here) the amplifier's output

capability, and in that process the modulation products of the super-hot channel end up being "cross modulated" (transferred) on top of the other (weaker) channels.

Cross-mod looks like a ghost image/frame bar floating on top of the weaker channels - which individually often look clean save for that floating vertical bar drifting through the image or the faint outlines of another, secondary image on top of the desired channel video. (photo, p. 18)

P5 has a very simple advisory for this situation; an "icon" appears on the display screen (above) the instant a saturated amplifier you are testing is connected, telling you "This amplifier is saturated." Solution? First, simply turn down the gain of the amplifier until the "icon" goes away. That would be the point of "threshold" - any additional amplifier gain and you have a drifting set of images. That's a system solution but not a system-layout fix. This tells you that someplace in your planning, you *may* have made an error - the signal input to the amplifier when married to the gain of the amplifier is producing "amplifier overload" - *saturation* - for that amplifier. And this is a point where you go back and re-evaluate your system layout. Perhaps the amplifier is too close to the headend (you needed to move it further away so that the input is reduced), or if that is past-practical, stick a pad on the input to reduce the level (thereby making it possible to run the output gain control 'up').

Unfortunately, here is where we discovered a major design fault in the P5. Testing it with 50 channel cable system, where all channels are in the region of +70>75 dBuV, most of the channels viewed on the in-built monitor screen display a drifting vertical frame bar. An overloaded cable amplifier? No - well, yes, sort of. It turns out the Prodig5 is not capable of handling 50 TV channels, even in the +70 dBuV region,

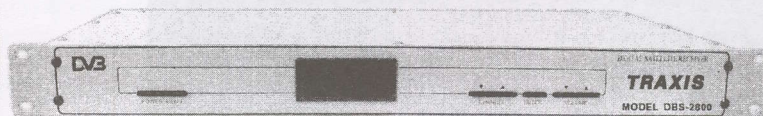




**Private labelling available
on this and most other products!**

**PROFESSIONAL
RACK MOUNT FTA MPEG-2 + 1
DIGITAL RECEIVER**

Traxis DBS-2800 19" Rack Mount Digital Receiver - Great commercial receiver at a great price.



TRAXIS DBS-2800 19" rack mount digital receiver - ends cumbersome "consumer receiver" lash-ups in SMATV, CATV headends! Everything you would ask for in a FTA professional receiver: MPEG2 and MPEG-1 compatible, NTSC/PAL/SECAM baseband output, user settable 4:3 and 16:9 image ratios, QPSK for SCPC and MCPC, full DVB FEC rates. LNB(f) 13/18VDC (500 mA max) with short-circuit protection; DiSEqC 1.0. Mains 85 - 260VAC, 50 to 60 hertz, 21 watts maximum draw. Mono, dual mono and stereo audio recovery. L-band input 950-2150 MHz, -65 to -25 dBm, channel bandwidth 36 MHz. Data port 9 pin D-sub type using RS232 protocol, maximum data rate 57.6 Kbps. Mechanical: 480mm (wide), 245mm (deep), 41mm (high; 1 RU).

DMS International specialises in creating hard-to-find speciality products for medium and large volume users. We create a design to satisfy our customer's needs using world-source, proven manufacturers, arrange for manufacture of the product, and you - the distributor or service operator are in business!

<http://dmsiusa.com> & <http://dmswireless.com> ♦ Tel ++1-770-529-6800 ♦ Fax ++1-770-529-6840
WORLD SOURCE for DTH Broadcasters, Distributors and Dealers

selectv))))

Become a dealer for Selectv Pay TV

Buy equipment from us and re-sell it to your customer with installation. We can offer you receiver and smart card packages for Selectv. Selectv is a Pay TV provider on PanAmSat8 satellite KU band. A 65cm dish should suffice for the whole of Australia.

A dealer agreement must be signed with us for you to re-sell these goods. If you are interested, please contact us and we will send you a dealer agreement.

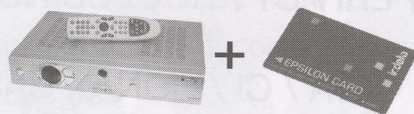
Seven program packages to choose from:

English:	\$29.95 per month
Curve TV:	\$39.95 per month
Greek:	\$29.95 per month
German:	\$19.95 per month
Italian:	\$29.95 per month
Vietnamese:	\$29.95 per month
Spanish:	\$44.95 per month

We are offering two receiver and smart card packages:

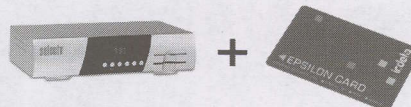
Receiver Package 1

Opentel ODS4000IR digital satellite receiver with Irdeto smart card slot, plus Selectv Smart card kit as a package. \$168.80 ea inc GST plus freight.



Receiver Package 2

Selectv UEC digital satellite receiver with Irdeto smart card slot, plus Selectv Smart card kit, plus 2 months free subscription* as a package. \$228.80 ea inc GST plus freight.



Smart card kits can be activated by the Dealer or Customer by contacting Selectv, registering the Customer details with them, and providing Selectv with the customers credit card details for the on-going subscription for the service. The subscription can be cancelled at any time with Selectv by giving them 1 month notice. If the service is cancelled, the smart card needs to be returned to the dealer.

*The customer will get 2 extra months free once they activate and pay for the first months subscription **by credit card only**. Card needs to be activated within 30 days of purchase from us to qualify. This is only with receiver package 2.



Kristal Electronics, ABN 78 010 884 938 Phone 07 47287704 Fax 07 47287759
Unit 2/22 Hills Street, Garbutt 4814 Townsville Queensland Australia
Website: <http://www.kristal.com.au> email: philip@kristalelectronics.com

RECEIVERS

LNB'S

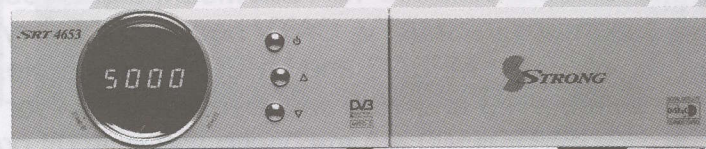
DISHES

POSITIONERS

ACTUATORS

SWITCHES

Robust Digital Receiving Equipment For Australia



NEW

SRT 4651 SRT 4653

SRT 4658

RANGE FOR SATELLITE

&

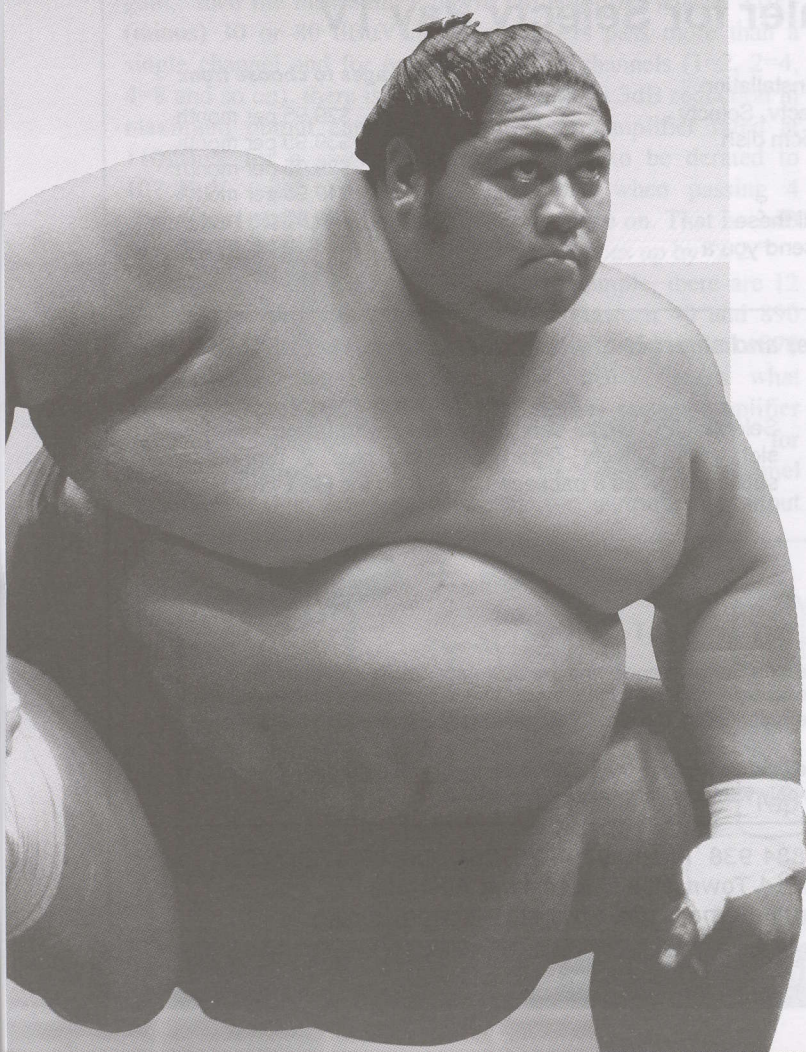
SRT 5060 SRT 5066

RANGE FOR TERRESTRIAL

- POWERFUL FEATURES
& PERFORMANCE
- COMPONENT VIDEO OUTPUTS
- HIGHLY SENSITIVE TUNER
- SUPERFAST PROCESSING SPEED
- FTA / CI / CONAX CAS7



STRONG



al Television Equipment tralasia

Interested in
purchasing or
distributing
STRONG
products?

contact us for
more information

STRONG TECHNOLOGIES PTY LTD.

60 Wedgewood Road, Hallam
Victoria 3803, Australia

Phone: (+61 3) 8795 7990

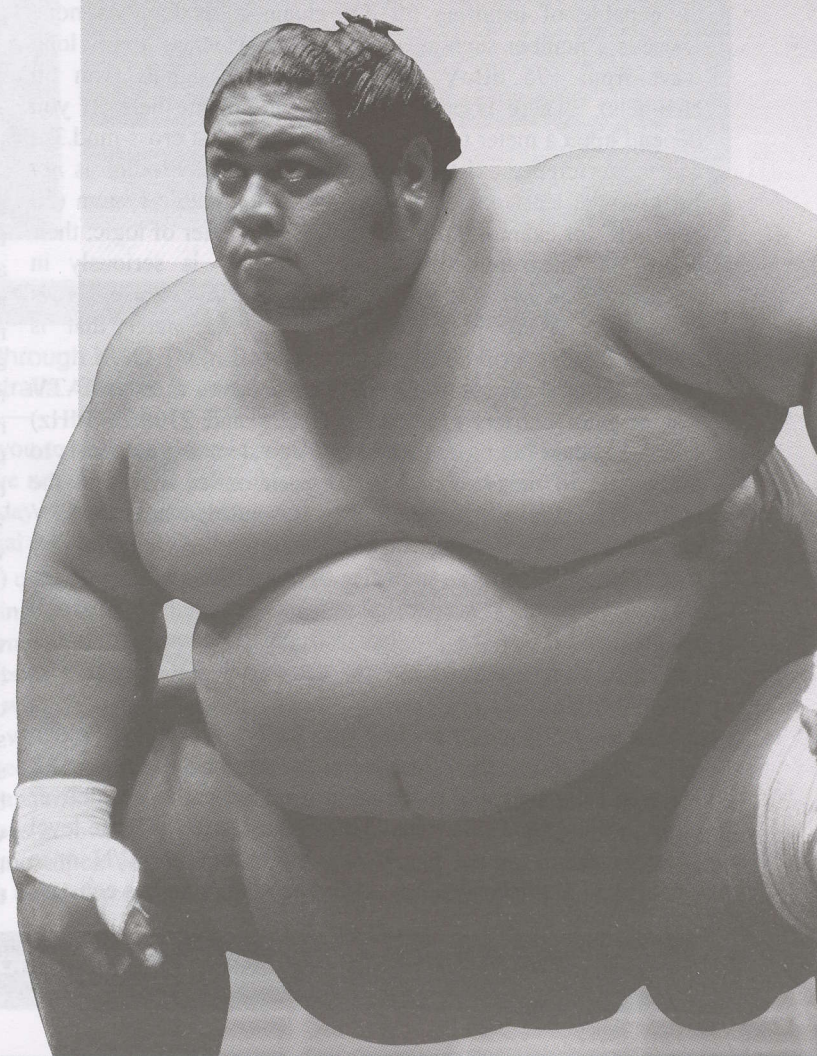
Fax: (+61 3) 8795 7991

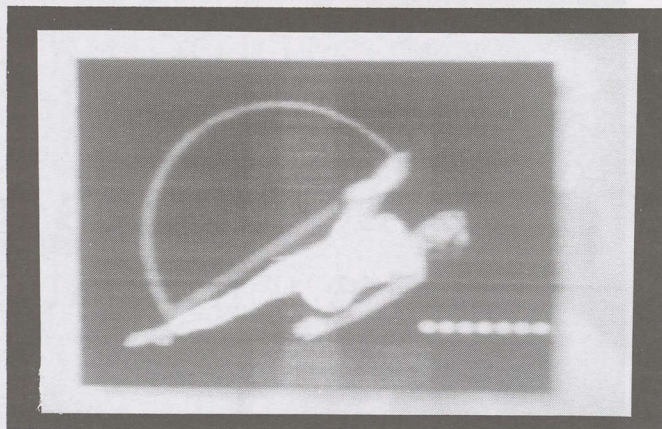
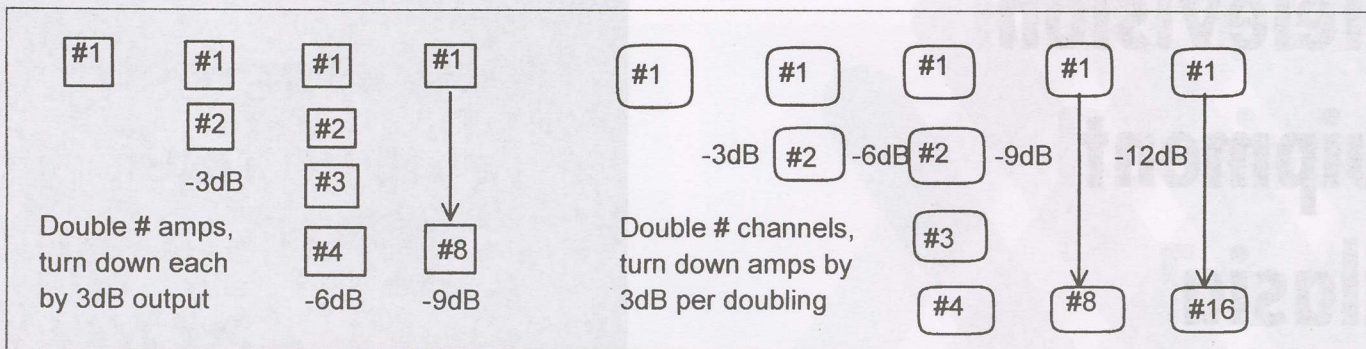
Email: asales@strong-technologies.com

For additional information about us
and about our satellite and terrestrial
receivers, visit our website at:
www.strong-technologies.com

For technical matters, please write to:
tech2@strong-technologies.com
or call 1800 820 030

VG Technologies





Drifting (vertical) 'frame bar' (mid-screen) results from 'amplifier overload' - alas, it is the meter's amplifier, not a cable amplifier that is overloading!

without *its own* internal amplifier overloading! We discussed this with the factory and they admit our observation is accurate. The logic behind this revelation, however, escapes us. If the meter is *rated* to measure signals as strong as +120 dBuV (which they claim), then its front end (amplifier) should be capable of handling 50 TV channels as long as none exceeds a number such as +102 dBuV - which is a *very* long ways from +75 dBuV (our strongest test signals with 50 channels). There is an unpleasant bottom line here: If you depend upon a meter to show you, visually, that cross-mod.3rd order interference exists in a cable system, the Prodig5 is *not* for you - at least not with a heavily loaded cable system (50 channels, for example). Furthermore, as a matter of logic, their claim of "measurements to +120 dBuV" is seriously in question given our observation. The meter, in a phrase, shows "overload" where none exists - it is *the meter* that is overloading (!).

An optional accessory (RP-080) generates three SMATV test or pilot carriers (1042.25, 1703.25 and 2108.25 MHz) which are then fed through a SMATV system as guideposts to allow you to measure and verify each outlet socket in the system. In this system, before you send L-band SMATV signals through a system, you can check out the system tap by tap, splitter by splitter, amplifier by amplifier right up to the final outlet points at user wallplates. This is called 'IF Test' and its' use is built into the Prodig5 instrument software. A similar test procedure is available for terrestrial TV frequencies (40-890 MHz).

Now the really clever reading with the P5. It is called "Video C/N" which means the P5 measures the modulated signal level, electronically stripping modulation from the carrier, to deliver a number on the TFT screen. This is the carrier to noise level of *that* channel (photo, p. 14). One might think the C/N, once established at the headend, would remain more or less constant

throughout the cable distribution system. One would think wrong.

Carrier to noise is affected by each amplifier in "the chain" (cascade, in technical jargon) and to a lesser extent by the way those amplifiers are adjusted. And the ratio between input level (to an amplifier) and the adjusted output level. All amplifiers degrade the signal - *all*. When the number of amplifiers in a wired system double, the individual amplifier contributions to degradation (seen as an increase in noise and background inter-modulation) increases, typically by 3dB or more. So if one amplifier degrades, two degrades twice as much as one and four degrades by four times as much as one. It is unavoidable and you can, with the P5, get a technical "handle" on the extent or level of degradation. And this C/N or carrier to noise ratio readout is the key to knowing just how badly the degradation is affecting the images on the system. One of the points you learn early is that if the input to an amplifier is allowed to drop too low (the amplifier specs say +70 dBuV minimum on all channels is recommended and you "fudge" and drop it to 68dBuV thinking, "Hey - what's 2 dB???",) serious degradation occurs. The input to an amplifier, based upon its "cascade-ability" (how many amplifiers you can operate "in series" - one after another to the end of the line) is one of those sacred factors you should not mess with. Sure, dropping the input to 68 dBuV when the manufacturer says 70dBuV is the lowest recommended number will buy you another hundred feet of cable or so, but the price you will pay in degraded end-of-line service is a serious trade-off.

So rule number one - *don't saturate amplifiers*. And rule number two? Don't skimp on input level to an amplifier - read the amplifier specifications carefully, keep the level at or above that recommended and at the same time apply rule number three: Never initially install an amplifier where, to make the system function to spec, you have to operate an amplifier at *full-out* total gain. Keep some (3dB is a good number) gain in reserve because as the system ages, you will need to tweak the output upward, first a few tenths of a dB and then a full dB - plus to maintain the desired levels on the balance of the system. Everything, including you, ages and you will need this "reserve" later on - assuming your installation will carry with it a maintenance contract as well.

A caution, here. Promax correctly warns that when working with high (analogue or digital) signal levels, such as a cable headend with multiple channels in excess of 90 dBuV, overload of the tuner in the Prodig5 can result creating significantly erroneous readings and spectrum displays. The solution is an external 10 or 20 dB pad, remembering to "add back in" the pad's value when assessing signal levels. This written manual "postscript" may have been done after they, too, discovered what ill-happens when their meter is hit with too many signals (our 50 channel test results, page 18).

Modern in-facility cable system buyers are becoming more sophisticated, drawing upon contract master forms prepared by somebody who knows as much about your business as you do - or one day will learn. When they include language specifying that the "end of line" signals will be "no less than 72 dBuV on the weakest channel" and that channel will be "no less than 48 dB carrier to noise ratio" - well, if you don't build the system with a Prodig5 meter, there *will be someone* who employs one checking *behind* you.

The Prodig5, or a similar meter from Unahom, is therefore your passport to getting out of the wham-bam-thank -you-mam \$75 world of pay-TV 60cm dish installs. A careful study of the meter (plan on two consecutive weekends to do this, properly), including a totally quiet period spent with the meter's accompanying "TV Explorer DVD," will do more to turn you

into a professional than an endless number of 60cm dish installs. This is a complex machine, and the instructions are written assuming you know and understand most of the digital terminology - sadly for many that will not be the case. Someone who does not understand digital should be assigned the task of creating a 'short-cut-manual' as a tool to bridge the gap between little knowledge and enough to properly operate the instrument; a wide gap, indeed.

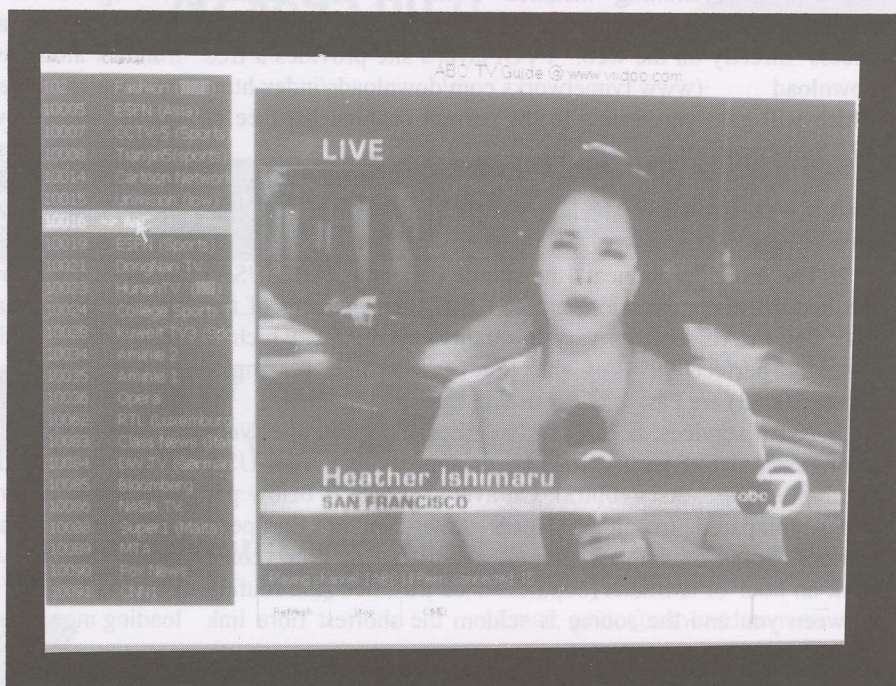
Owning this meter (or an Unaohm equal) won't make you a \$50 an hour professional, but not owning one will pretty much guarantee you will spend the balance of your "TV life" collecting \$75 cheques from the folks who would dictate how you will live in the future hanging 60cm dishes and running RG6.

Oh my -

Look what they are doing to Internet Video/IPTV!

TVUPlayer Channels (*)

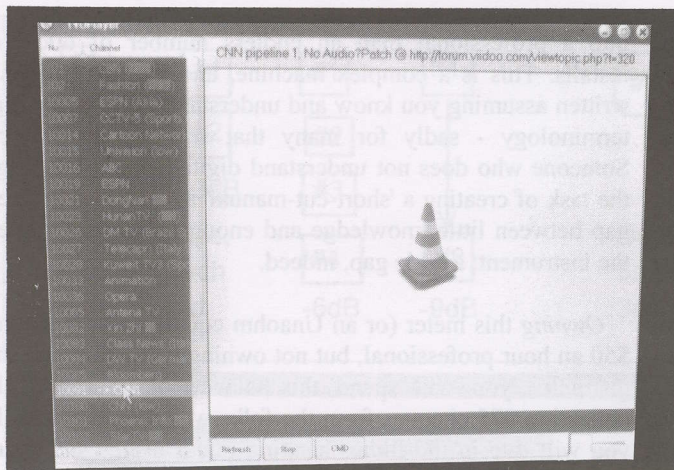
- 101 CBN (not USA)
 - 102 Fashion
 - 10005 ESPN (Asia)
 - 10007 CCTV-5 (Sports)
 - 10008 Tanjian5 (Sports)
 - 10014 Cartoon Network
 - 10015 Univision (Spanish)
 - 10016 ABC (KGO-TV San Fran)**
 - 10018 CBS (low)
 - 10019 ESPN (Sports)
 - 10021 DongDan TV
 - 10023 Hunan TV
 - 10024 College Sports
 - 10028 Kuwait TV3 (Sports)
 - 10034 Arminie 2
 - 10035 Arminie 1
 - 10036 Opera
 - 10062 RTL (Luxembourg)
 - 10064 Realita TV
 - 10065 Antena TV
 - 10083 Class News (Italian)
 - 10084 DW TV (Germany)
 - 10085 Bloomberg TV
 - 10086 NASA TV
 - 10088 Super One (Malta)
 - 10089 MTA
 - 10090 Fox News**
 - 10091 CNN1
 - 10100 CNN (low)**
 - 10101 Phoenix Info
 - 10102 Star TV
 - 10103 Phoenix CN
 - 10105 CTITV
 - 10108 KNNSBS
 - 10109 MBC
 - 10110 HBO**
 - 10112 Hollywood Movie
 - 10113 East TV
 - 10114 CCTV8
 - 10117 Huayu
 - 10118 Channel [V]**
 - 10019 Disney**
 - 10120 CBS (WTVF Nashville)**
- * subject to daily change



ABC USA, through KGO-TV in San Francisco, is +5 hours to NZ, +7 to Eastern Australia. Service is very viewable if not adequate for a plasma.

It is time for you to recheck what is available to you through Internet television, provided you have not checked it out within, say, the last 60 days. The technology is improving in 30 day spurts and numerous new services are available weekly. Some of the content (partial list, left) is (1) of very little general interest, (2) of questionable video (and audio) quality, and, of some importance, (3) of unpredictable reliability.

But it is changing, mostly for the better, weekly if not daily. Say or think what you might about Internet as a delivery vehicle for television, the ineptness of firms such as Telstra or Telecom (NZ) to adapt to change, the slow bandwidth system you are forced to endure with or without what the service providers so optimistically label as "broadband," the world is evolving, changing, with more speed than you can imagine. Yes, there are technical problems, festering arguments and corporate insecurity concerning the capability of existing telephone distribution plants to modernise to bring this wondrous innovation to your home and those of your clients, but change it is and even if against their corporate will, the most latent and backward thinking of telephone firms is being forced into compliance. Competition is the fuel, here.



Select a service - double click. While loading (3-20 seconds) line below image reports progress, explains buffering, download speed.

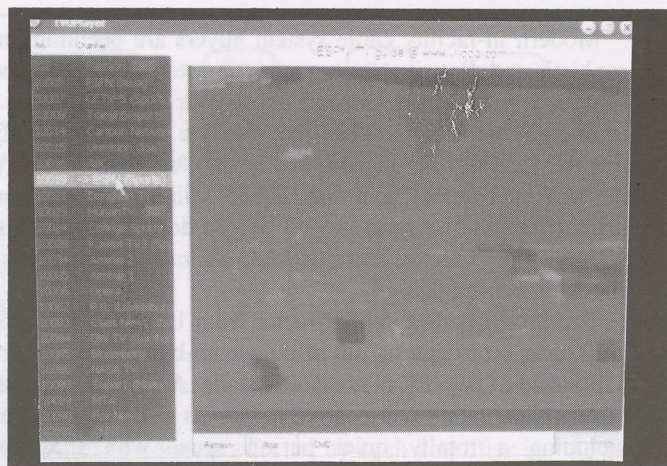


Image begins by blocking, bounces in and out a few times before settling down to something approaching consistency.

The start

Internet video requires software in your PC and a connection to Internet. The software is not that different from the MPEG-2 programming installed inside of your satellite receiver. TVUPlayer is a free to use software which you access directly on the web. TVUPlayer's site provides a free download (www.tvunetworks.com/downloads/index.htm) which will gain you access to the current channel list (see p. 19). Some notations:

1/ Services followed by (low) run at reduced speeds (ESPN2, for example) which makes for (rapidly moving) slide show displays.

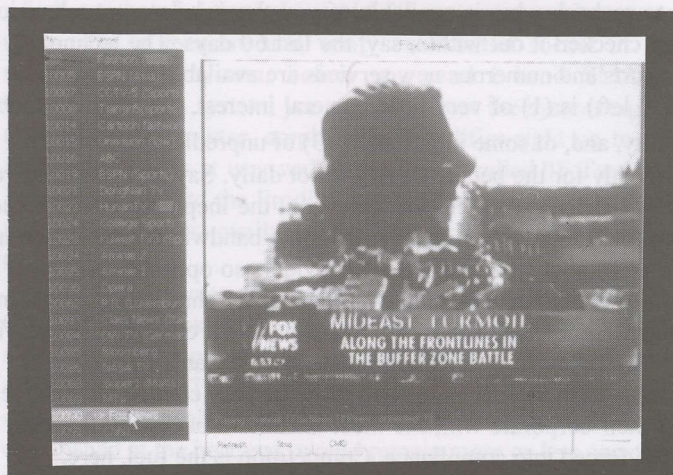
2/ The more "prominent" the source (example: ABC-USA) the better the compression and CODEC (management of the data flow). All services vary in quality (even ABC which is virtually perfect 99% of the time) and some (example: Opera/10063) are basically not usable.

3/ Asian services, at least in New Zealand, are either very poor (example: East TV/10113) or approaching ABC-USA (example: ESPN-Asia/10005). On average, Asia is below par when compared to either North American or European sources. Some of this variation is a function of time (come back an hour or two later) and distance travelled (the routing between you and the source is seldom the shortest fibre link

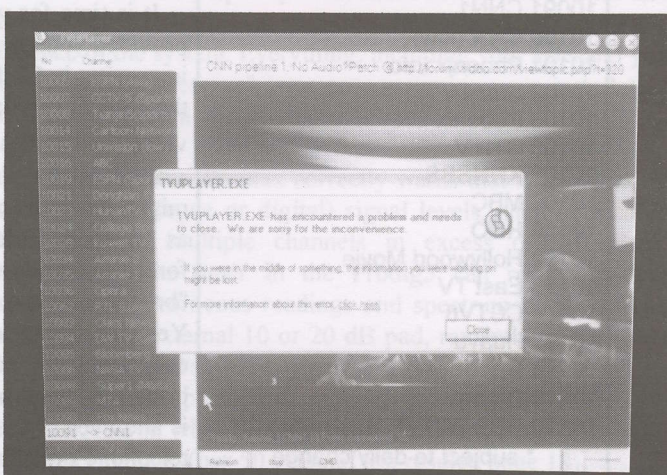
possible, changing frequently as world-wide circuit loading changes).

There is a warning here for anyone who does not enjoy the privilege of unlimited downloading for a set fee. Using ABC-USA as an example, the amazing CODEC in use trundles along averaging between 40 and 80(,000) Kbps - a rate which a year ago would have only produced inferior quality slide shows. Thanks to the latest uploading software, it is smooth and essentially glitch free. But using 50,000 Kbps as an average, in 60 seconds you are downloading 3 Mb of data; in 30 minutes, 90 Mb. Assume your monthly fee allows you 10 Gb of data before one of two things happens: (1) The provider throttles your download speed backwards to a sub-video rate, or, the dangerous option - (2) they start a meter running to send you a bill for everything past your capped amount (10Gb). Ten Gb divided by 90 Mb works out to around 100 thirty minute TV downloads (within a billing month - most providers reset your usage 'clock' to zero on the first of the month) and to that 'total' download factor in whatever your data usage is for web and Emailing purposes. To put that in perspective, something around 3 x 30 minutes per day in a month before you approach the red line. The warning? Leaving HBO/10110 running unattended overnight downloading movies is probably not in your best economic interest!

This FOX News video shows severe video compression and distortion - part of the artefacts one can expect from an imperfect Internet feed.

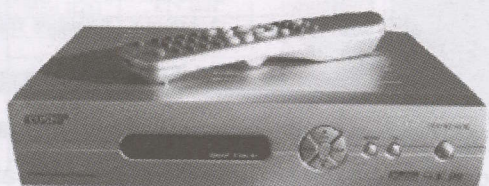


And without warning, akin to drop-out of satellite, this is the Internet equivalent of a blue screen. You correct this by rechecking into TVUPlayer anew.



PAY LESS

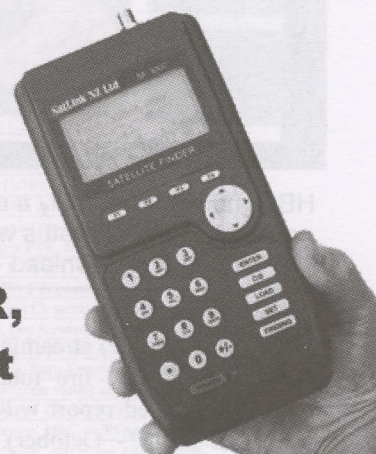
GET MORE !



PVR unit!
Twin tuners,
160 gig HD

FTA - COSHIP
VERY SMART !
\$110

Satfinder with BER,
RS232, water resist
NZ\$895.00 !!



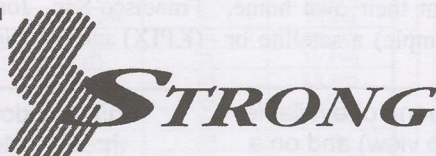
www.satlinknz.co.nz - Peter 0274937025

SATWORLD

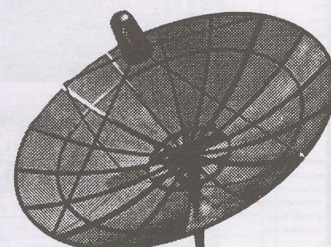
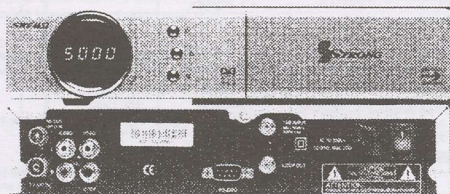
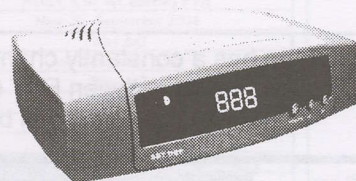
2/493 Hammond Road
Dandenong South, Vic
Tel ; (03) 9768 2920
Fax; (03) 9768 2921
Email; richard@satworld.com.au

www.satworld.com.au

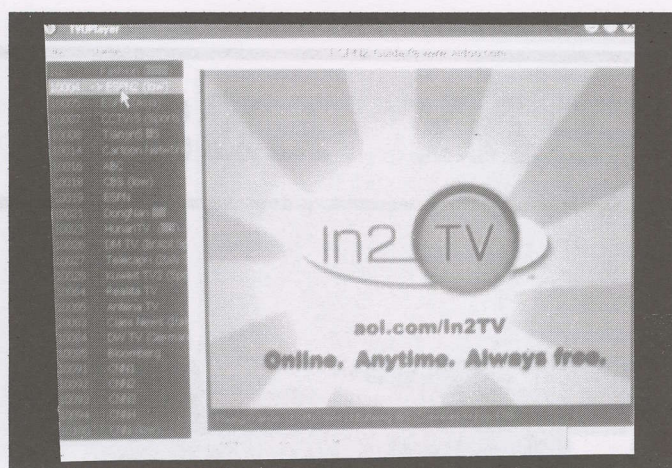
50-52 Alexandra Parade
Clifton Hill, Vic
Tel ; (03) 9489 2977
Fax; (03) 9489 5977
Email; guido@satworld.com.au



Authorised Representative



Where Else Can Your Needs Be Met



HBO movies? Certainly a mystery (how or why it is here - given its' pay-TV status world-wide). Be careful of how long you download - the meter is running!

AOL.com is yet another "free to view" source although it can be difficult to navigate with a mixture of pay-to-view intermixed.

Alternate sources

P2P (peer to peer) streaming is now a planet-circling wild fire totally out of control (a detailed report will appear in SatFACTS #146 - October). Much of what is available is only a half-step ahead of the copyright cops and if you are looking for "always there - dependable" services, this may not be for you.

But a number of established firms such as American On Line (AOL) have made major commitments to developing in depth video access offerings. Some sites are using a software known as BitTorrent which is actually the web equivalent of an automatic web-site-directory (think of a telephone book where you look up numbers). BitTorrent lets you log on to a 'directory' (such as TVUPlayer) and when you select a particular service by double clicking on it the software redirects your request to the actual streaming site (such as ABC USA). The 'wild fire' growth is being fuelled by folks who quite without permission of the copyright holders are providing clandestine links - possibly from their own home, through an upload server, fed by (for example) a satellite or

Listing of more popular P2P sites
www.tvnetworks.com/downloads/index.htm
www.television.aol.com/in2tv
www.tvnetworks.com
www.sopcast.org
<http://online.chris.tv.com/index.html>
<http://www.asiaplate.com/live.today.htm>
<http://www.liveuktv.com/index.asp>
Our thanks to Craig Sutton (www.apsattv.com) in monitoring P2P sources for reporting here.
p2p forum sites
www.p2p.wrox.com
www.technorati.com/tag/p2p
www.peerchat.org

cable STB left full-time connected to say - HBO (above). Sooner or later, this obviously copyright-volatile activity will be traced to a source and down they will go. A recent survey found more than 40,000 such "unauthorised" links functioning or capable of functioning although fortunately only a tiny percentage of these end up being listed on sites such as TVUPlayer. Those with unlimited time and a passion for usually poor quality video uploaded by people wearing pirate bandannas will have no difficulty locating this new videophile passion.

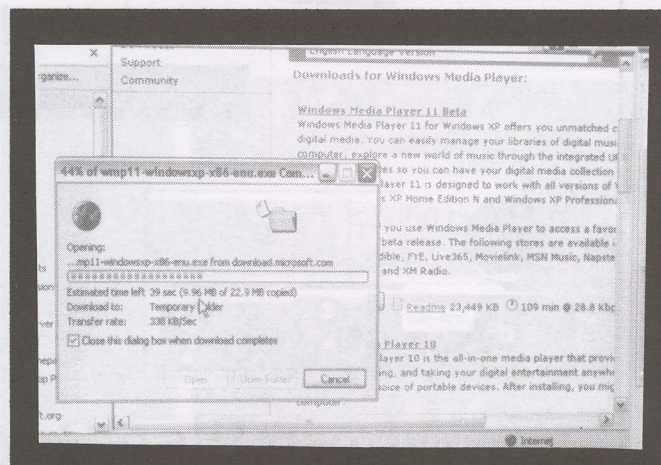
For most, directly watching CNN (www.cnn.com) feeds, or being linked through AOL.com or TVUPlayer should be challenge enough.

Synopsis?

As of September 3, the list appearing on pages 19 has changed; a regular event with this service. Added are USA-TV, Comedy Central (very much 'R-rated'), San Francisco-San Jose NBC (KNTV), CBS San Francisco (KPIX) and Fox Network San Francisco-Oakland (KTVU).

AOL.com has a constantly changing menu of available materials, mixed between FTV (free to view) and on a per program basis.

Software download - Beta-11 version (available through site) is recommended but you will be selecting based upon your Internet service speed.



SatFACTS Pacific/Asian MPEG-2 Digital Watch: 15 Sept, 2006

Bird	Service	RF/IF &Polarity	# Program Channels	FEC	Msym
Thcm5/78.5	SkyChAust	3695/1455H	up to 3	3/4	5(,000)
	ANT Greece	3672/1478H	1 TV	3/4	13(,333)
	TARBS ME mux	3640/1510H	12TV, 12 radio	2/3	28(,066)
	Ch Nepal	3626/1524V	1	3/4	15(,556)
	Mahar mux	3600/1550H	11TV, 1 rad	3/4	26(,667)
	RR Sat mux	3551/1600H	8TV, 10 radio	3/4	13(,333)
	TVK Cambodia	3448/1702H	1TV	1/2	6(,312)
	TARBS/Th5	3480/1670H	12 TV+radio	2/3	26(,667)
	Thai Global	3425/1725V	up to 7?	2/3	27(,500)
InSat 2E/83	ETV mux	4005/1145V	6+ TV	3/4	27(,000)
	Hyd Dig 2E	3910/1240V	1	3/4	5(,000)
	Kairali TV	3699/1451V	1	3/4	3(,184)
	Indian mux	3643/1507V	3	3/4	19(,531)
	Sky Bangla	3430/1720V	1TV	3/4	6(,000)
NSS6/95E	Ant Pac (Greek)	11,104H-Australia	1 TV	3/4	2(,800)
As2/100.5E	Guangdong TV	4075/1075H	1TV + radio	3/4	6(,000)
	Euro Bougt	4000/1150H	5TV, 19 radio	3/4	28(,125)
	SatLink	3960/1190H	3TV	3/4	27(,500)
	Reuters News	3905/1245H	1TV	3/4	4(,000)
	WorldNet	3880/1270H	4+/18radio	1/2	20(,400)
	APTN Asia	3799/1351H	1	3/4	5(,632)
	Reuters/Sing	3775/1375H	1	3/4	5(,631)
	Macau MUX	4148/1002V	5TV	3/4	11(,850)
	Dubai MUX	4020/1430V	4+, radio	3/4	27(,500)
	Russian/Israel	3832/1318V	up to 4 video	3/4	7(,271)
	ArabSat#2	3820/1330V	8+ video?	3/4	27.5
	Trace TV	3792/1358V	1	3/4	2(,400)
	BYU-TV	3767/1383V	1 + 20 audio	1/2	6(,530)
	3-ch miniMUX	3752/1398V	up to 3	3/4	5(,640)
	Saudi TV1	3660/1490V	7+/tests	3/4	27(,500)
Express2/103E	Various-tests	3675/1475R	2	3/4	4(,340)
As3S/105E	Chinese regionals	3671/1471V	2	3/4	8(,932)
	CETV digital	3680/1470H	1+ TV	3/4	26(,670)
	Zee bouquet	3700/1450V	10TV	3/4	27(,500)
	Ch News Asia	3706/1444H	1TV (+)	3/4	6(,000)
	Azio TV	3716/1434H	1TV (+)	3/4	7(,000)
	BTV World	3725/1425V	1TV	3/4	4(,450)
	TVB 8	3729/1421H	1TV	3/4	13(,650)
	Zee Movies	3732/1418V	3TV	3/4	6(,500)
	TV One	3739/1411V	1TV	3/4	2(,8934)
	SAB TV	3743/2407V	1TV	3/4	3(,300)
	Fashion TV	3747/1403V	1TV	3/4	2(,625)
	AAJ-TV	3750/1400V	1TV	3/4	2(,820)
	Arirang TV	3755/1395V	1	7/8	4(,418)
	Now TV +	3760/1390H	up to 10TV	7/8	26(,000)
	Star TV	3780/1370V	7(+)/TV	3/4	28(,100)
	GXTV	3806/1344V	1TV + 3 radio	3/4	4(,420)
	Shaanxi TV	3813/1337V	1TV + 2 radio	3/4	4(,420)
	Anhui TV	3820/1330V	1TV + 2 radio	3/4	4(,420)
	Jiangsu TV	3827/1330V	1TV + 2 radio	3/4	4(,420)
	HLITV	3834/1316V	1TV	3/4	4(,420)
	Star TV	3840/1310H	7(+)/TV	7/8	26(,850)
	Star TV	3860/1290V	5(+)/TV	3/4	27(,500)
	Arabsat MUX	3880/1270H	10+TV, 14Radio	3/4	27(,500)
	Dragon TV	3886/1264V	1 TV	3/4	4(,800)
	Shandong	3895/1255V	1TV + 6 radio	3/4	6(,813)
	CCTV1	3904/1246V	1TV, 1 radio	7/8	4(,420)
	Jilin TV	3914/1236V	1TV + 2 radio	3/4	4(,420)
	Star TV	3920/1230H	4+ TV	7/8	26(,850)
	CNNI	3960/1190H	8TV, 1 radio	3/4	27(,500)
	StarTV	3980/1170V	6+TV	3/4	28(,100)
	Star TV	4000/1150H	8(+)/TV	7/8	26(,850)
	Sahara digital	4020/1130V	8TV, 1 radio	3/4	27(,250)
	Hubei TV	4035/1115H	1TV + 2 radio	3/4	4(,420)
	Tianjin TV	4046/1104V	1TV + 2 radio	3/4	5(,950)
	Sichuan TV	4051/1099H	1TV + 1 radio	3/4	4(,420)
	Qinghai TV	4067/1083H	1TV + 2 radio	3/4	4(,420)
	Hunan TV	4082/1068H	1TV + 1 radio	3/4	4(,420)
	Fashion/HK-Asia	4088/1062H	1TV	3/4	2(,626)
	Pakistani TV	4091/1059V	4TV, 1 radio	3/4	9(,330)
	Sun TV	4095/1055H	1	3/4	5(,554)
	PTV National	4106/1044V	1TV, 1 radio	3/4	3(,333)
	TVB8 Mux	4111/1040H	4 TV	3/4	13(,650)
	Indus News	4115/1035V	1	3/4	3(,331)
	CCTV bqt	4129/1021H	4 TV, 4 radio	3/4	13(,240)
	Zee Bqt #2	4140/1010V	8(+)/TV	3/4	27(,500)
	Henan TV	4166/984V	1TV + 8 radio	3/4	4(,420)
	Fujian TV	4180/970V	1TV + 2 radio	3/4	4(,420)
	Jiangxi TV	4187/963V	1TV + 2 radio	3/4	4(,420)
	Liaoning TV	4194/956V	1TV + 2 radio	3/4	4(,420)
Cak1/107.5	Indovision (S-band)	2,535, 2,565, 2,595, 2,625, 2,655	33(+)/TV	7/8	20(,000)
T'Kom/108E	IndoBqt	3460/1690H	up to 6	3/4	28(,000)
C2M/113E	TPI	4185/965V	1	3/4	6(,700)
	Anteve	4144/1006V	1	3/4	6(,510)
	Kabelvision Mux	4080/1070H	7+ TV	7/8	28(,125)
	Indostar	4074/1076V	1	3/4	6(,500)
	SCTV	3934/1216H	1	3/4	6(,620)
	Indo MUX	3880/1270H	3+ TV	7/8	28(,121)
	TVRI	3765/1385H	1TV	3/4	5(,555)

Receivers and Errata

CA (#1, 3); FTA audio #2
Late July 04: room for more (FTA)
CA + 23FTA(A1TV, IRB3, Vision Norge,Pakistan)
New 03/03; FTA
Thai + Indian services; FTA inc. Vibe TV, Sindh TV
3TV, 5radio inc. Hellas TV Greece FTA
FTA
3FTA: TV5, VTV4, ATN Bangla
FTA (reaches SE Australia)
Several ETV now here; wide beam
SCPC, OK E. Aust. wide beam
SCPC, OK E. Aust wide beam
corrections 12/02
New - November 2002
Now CA; was 11 083H
July 04: FTA
FTA TV + radio; Russia,Port,Spain, Italy/Euro Bqr
Real Madrid (V769, A770) English FTA
Was 3923H; sometimes FTA
FTA; multiple audio services V2360, A2320
Sometimes FTA; also 3895Vt
FTA & CA
5 chs TV, FTA, some tests
FTA ; Dubai Sports Ch some English, soccer-
Two Israel, two Russian (REN-TV)
New 107-06; initially parallel As3S 3 880H
new here Dec 2004; Euro-French music videos
Increased coverage; great variety audio chs(03-05)
Sun-TV, Surya TV, KTV (FTA)
FTA MCPC; Yemen, MBC EUROsport tests
Now loaded from 96.5E; svrl below 3900 all RHC
New 07-06; Yanbian, Jilin Satellite TV
replaces analogue same freq; V33, A32
Now SECA 2 CA (10-04); Radio Aust. Eng. A2011
English + V1160, A1120; 525, 625 versions
Was parallel to 3640Hz analogue (now gone)
Conax CA, all Hindi films
Also reported 3.333, 3/4 October 2005
SAB may no longer here here; moved to NSS-6?
new frequency October 2005
New April 2005; English, urdu
FTA SCPC; New PIDs V3601, A3606 June 2003
CA + FTA; DW, TV5 here now (late 2005)
NDS CA (Pace DVS211, Zenith)
Guangxi TV; was As2
Was As2
Was As2
Was As2
NDS CA (Pace DVS211, Zenith)
NDS CA (Pace DVS211, Zenith)
New April 2004: link to Optus B3 Globecast
Shanghai
Apparently Mongolia
PowVu CA; new SR Apr 29; CNN radio FTA
NDS CA; Star News India FTA VPID 514, APID 648
NDS CA w/ 4(Chinese) FTA
New Sr September 2004
Was As2
new December 2004
Was As2
Was As2
Was As2
New July 2005
new Sr, channels, April 2006
"History Channel" - SCPC, some English
MATV Ch Movies now Irdeto 1
Hindi (+ "Plus"); day parts
moved from 4115
Now SECA 2 CA (10-04); 1 occ. FTA (varies)
Was As2
Was As2
Was As2
Was As2
NDS CA using RCA/Thomson,
Pace IRDs; 2,535 has 2 FTA. Bird now inclined.
also 3586H/17,500, 3496H/19,615
FTA SCPC; NT/NC only
change from 4055V; FTA SCPC
also try 3500H, 27,000, 3/4; strong NZ
New (but probably temporary) 07-06
FTA, may not be active full time
FTA; Sr change 01/03; erratic
bounces btwn FTA and CA; unreliable (12-04)

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
	Brunei/Sing	3733/1417H	1TV	3/4	6(000)
	SCTV	3726/1424V	1TV	3/4	6(620)
	RCTI	3473/1677H	2	3/4	8(000)
As4/122E	CCTV internal	4100/1050V	6	3/4	27(500)
Jc3/128	Miracle Net	3996/1154V	3 up to 6	5/6	22(000)
	Asian bqt	3960/1190V	up to 8	7/8	30(000)
Ap6/134E	Multiple	4140/1010V	up to 8	7/8	27(500)
T18/138	Tests	3460/1690V	8	3/4	30(000)
Am3/140	STS +	3731/1419R	1	3/4	3(200)
Jc2A 154	BYU-TV	3915/1245V	1+ 20 languages	3/4	4(166) (?)
MeasSs2	Astro Mux	11.602H	up to 17TV	3/4	41(500)
	VTV MUX	11.522V	3 TV	3/4	9(766)
B3/152	7 Cent. Feed	12.310H	1TV	3/4	5(100)
	AuroraBiz	12.407V	4 TV, 10 radio	2/3	30(000)
	UBI	12.425V	up to 13 TV + radio	3/4	22(500)
	Globecast 2	12.525V	13 TV, 8 radio	2/3	30(000)
	Globecast (feeds)	12.550-555V	1TV	3/4 & 2/3	6(110/670)
	Globecast	12.564V/T13	2+ TV	2/3	30(000)
	UBI	12.613H/T14L	11+TV	3/4	22(500)
	UBI	12.640H/T14U	11+TV	3/4	22(500)
	Globecast 1	12.658V/T7	14TV, 15 radio	2/3	30(000)
	UBI	12.674H/T15L	11+TV	3/4	22(500)
	UBI	12.701H/T15U	11+TV	3/4	22(500)
	WA ABC	12.702V	1 TV, 1 radio	7/8	14(288)
	WA SBS	12.720V	4TV, 2 radio	5/6	12(600)
	WA GWN/WIN	12.738V	2TV	7/8	14(295)
C1/156E	Internet tests	12.288V/T1L	no regular TV	1/2 - ?	28(650) (?)
	Aurora	12.324V/T1U			
	Pay TV	12.365V/T2	11TV, 2 radio	3/4	27(800)
	Aurora Home	12.407V/T3	5 TV, 13 radio	2/3	30(000)
	Pay-TV	12.447V/T4	5TV, 4 data	3/4	27(800)
	Pay TV	12.487V/T5	3+ TV, data	3/4	27(800)
	Aurora 2	12.527V/T6	7TV, 20 radio	3/4	30(000)
	Pay-TV	12.567V/T7	10 TV	3/4	27(800)
	Pay-TV	12.607V/T8	10 TV	3/4	27(800)
	Pay-TV	12.647V/T9	10 TV	3/4	27(800)
	Pay-TV	12.692V/T10L	6TV, 27 radio	1/2	28(650)
	Aurora MUX	12.728V/T10U	4TV, 17 radio	1/2	24(450)
	Austar	12.305H/T11	6TV, 24 data	3/4	30(000)
	Pay-TV	12.358H/T12	10 TV	3/4	27(800)
	Pay-TV	12.398H/T13	10 TV	3/4	27(800)
	Pay-TV	12.438H/T14	6TV, 3 data	3/4	27(800)
	Pay-TV	12.478H/T15	10 TV	3/4	27(800)
	Pay-TV	12.518H/T16	10 TV	3/4	27(800)
	Pay-TV	12.558H/T17	10 TV	3/4	27(800)
	Pay-TV	12.598H/T18	10 TV	3/4	27(800)
	Pay-TV	12.638H/T19	10TV, 30 radio	3/4	27(800)
	Pay TV	12.688H/T20	11TV	3/4	27(800)
B1/160	Central 7	12.365H	1 TV, 1 radio	3/4	6(100)
	Occ feeds	12.384V	1 TV - *	3/4	6(111)
	Imparja mx	12.379H	2TV + 8 radio	3/4	5(424)
	7 digital feeds	12.397H	1TV	3/4	7(200)
	Feeds to NZ	12.411V	1 TV	3/4	6(111)
	SBS Mux	12.420H	3+ TV, 2+ radio	5/6	12(600)
	TVNZ Tests	12.483V	up to 8TV	3/4	22(500)
	Sky NZ	12.519/546V	7TV/7TV	3/4	22(500)
	Sky NZ	12.581/608V	6TV/6TV	3/4	22(500)
	Sky NZ	12.644/671V	9TV	3/4	22(500)
	ABC western	12.610H	5TV	7/8	14(328)
	Sky NZ	12.707/734V	8+TV	3/4	22(500)
P8/166E	ABS-CBN	12.575H	4+TV, 4+ radio	2/3	13(845)
	NZ tests	12.642V	up to 8 TV	3/4	28(060)
	JEDI/TVB	12.686H	11+ TV	3/4	28(126)
	ABC A-P	4180/970H	2TV, 2 radio	3/4	27(500)
	Disney Pac	4140/1010H	typ 6 TV	5/6	28(125)
	Taiwanese MUX	4080/1070H	12+ TV	5/6	30(000)
	NHK Joho	4060/1090H	7TV, 1 radio	1/2	16(180)
	FOX Mux	4040/1110V	up to 5TV	7/8	26(470)
	NET +	4121/1029V	1 TV	3/4	4(774)
	ESPN USA	4020/1130H	8+TV, data	3/4	26(470)
	Discovery	3980/1170H	8 typ	3/4	27(690)
	CalBqt/Pas8	3940/1210H	up to 3+ FTA	7/8	27(690)
	CNBC HK	3900/1250H	up to 7TV	3/4	27(500)
	FilipinoMUX	3880/1270V	up to 8TV+radio	5/6	28(694)
	TaiwanBqt	3860/1290H	12TV + 30 r	5/6	28(000)
	CCTV Mux	3829/1321H	up to 4 + 1 radio	3/4	13(240)
	TVBS-N	3836/1314V	1FTA, 4+ CA	3/4	17(500)
	EMTV PNG	3808/1342V	1 + 2 radio	3/4	5(632)
	CNNI	3780/1370H	3, up to 5 TV	3/4	25(000)
	Discovery Asia	3764/1386V	Up to 6 TV	3/4	19(850)
	MTV	3740/1410H	8	2/3	27(500)
P2/169E	WA Mux Pv	12.281V	3+ TV, radio	2/3	27(500)
	Ariang TV	12.401V	1TV	3/4	4(400)
	ABS-CBN	12.575H	4TV, 2 radio	2/3	13(845)
	Test mux	12.715H	6+ TV	2/3	30(000)
	TARBS feeds	4090V/1060V	9TV + radio	3/4	21(000)
	BBC India	3.915/1235V	1TV	3/4	6(620)
	BBC SCPC	3986/1164H	1TV	1/2	5(700)
	Middle East	3836/1314V	4 typ	3/4	13(331)

Receivers and Errata

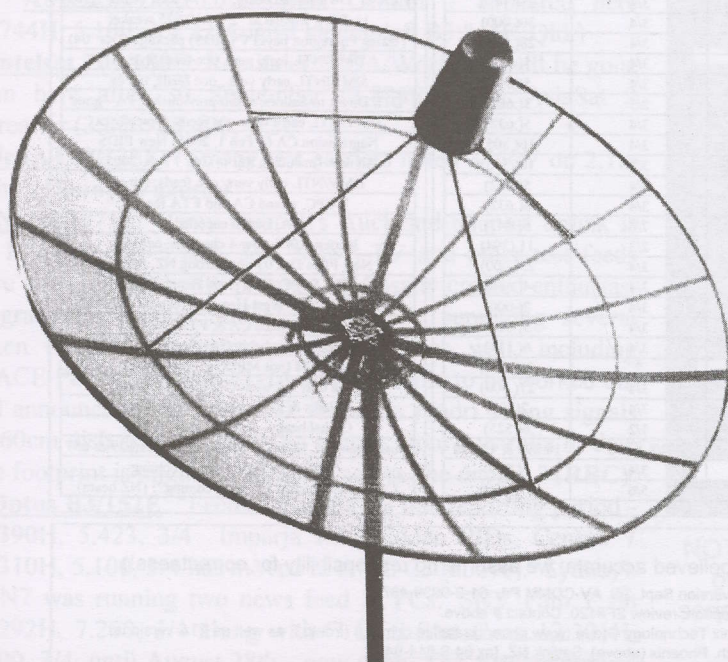
FTA ; Singapore 23hrs, Brunei 1 hr, Brunei V1200
was on 4048V; New Caledonia, parts of Australia
FTA SCPC, or, 3774H, 6.520, 3/4 (June 06)
Irdeto 2; 4060V HDTV CA; also try 4020V
PowerVu; some FTA (Ch. 1 & 3)
CA & FTA NTSC: Japan, Taiwan
(ApStar 6: also 4180V same #s; some analogue also)
also try 3660/3540V, Sr 30.000, 3/4; some FTA
North beam; also try 3875R, 12.475, 1/2
Strong NZ & Australia; may now be 1/2, 6.525
Aust East beam - 3 FTA + 14 CA
WA only? Skew path, intended Asia
Was B1; moved June 2006, concerns B1 failures
differs from 12.407 C1; tune ch FTA; NZ+Au
Now Irdeto V2
NZ + Au, FTA + Mcript CA
occ feeds, NZ + Au, recently 12.553V
AMTV, Healing only FTA svcs now here
High performance beam; not NZ, new CA 07-06
High performance beam; not NZ, new CA 07-06
NZ + Au (Mcript, PowVu capable)
High performance beam; not NZ; new CA 07-06
High performance beam; not NZ, new CA 07-06
ABC WA tests, FTA
SBS, radio tests WA FTA
Irdeto V2 CA, tests (GWN, WIN)
Now on Australia + NZ beam; SCPCs
not currently in use
Tests, SBS-NDS CA, others FTA when here
NZ (90cm) + Australia (Only C1 svc left on NZ)
Australia NA only (leakage to Norfolk, New Cal)
Australia NA only (leakage); 9-Net x 3 widescreen
Arrow radio (still here), tone FTA
Pay-per-view movies; CA
Pay-per-view movies; CA
Pay-per-view movies; CA
ABC for Foxtel/Austar; previously 12.288V
changes September 2005
Austar inter; Expo FTA
NDS CA + Mcript; CA
CA, subscriptions available Australia, Norfolk
Sky News active; 'Help x 2' FTA
CA, subscriptions avail Au, Nrlfk, TVSN FTA
CA, subscriptions available Australia, Norfolk
"Home" CA, subscription available Australia, Nrlfk
CA, subscriptions available Australia, Norfolk
CA, subscription available Australia, Norfolk
CA, subscription available Australia, Norfolk
also reported B3, 12.310H
* - plus 12.293V, 402V, 411V, 451, 460H
PIDs vary; also try 12.360, 12.370
occ. digital feeds; typ fta
Often NTSC; USA-Australia-NZ
Also 12.437H, 12.456H same params: HDTV+WS
(12.456 now shut down); 16-9 added late July
NDS CA, subscription available NZ
NDS CA, subscription available NZ
NDS CA, subscription available NZ
also see 12.610, 626, 643, 670, 688, & 706H
NDS CA, subscriptions available NZ
CA
Testing new NZ Ku beam
June 2002-Irdeto-2 CA
Dateline west; also east PAS2, 3901V
PowVu CA
Tests - CA service announced
PowVu CA & FTA; sub available-changes 05-06
was PAS-2, previously 3992V; feeds FTA
NET25 + FTA; new PIDS April '03; reload
PowVu CA; ch 11 DCP-CCP bootload; audio FTA
PowVu/CA (some audio FTA)
PowVu CA & FTA (EWIN + CBS + TBN +)
NDS CA (6 channels); one test card occ FTA
Myx FTA V1960, A1920 + radio FTA
Mixed FTA & CA; STC gone (CA)
PowVu FTA, replaces PAS-2 svc
CCTV cross pole; new SR 04-06
PowVu CA
PowerVu; some audio FTA
PowerVu; Asian MUX; new parameters Nov '03
8 MTV China FTA V289, A290; rest CA
PowVu CA, WIN, ABC NT, SBS; status unknown
Test - may not stay permanently
Temp FTA: subs Aust 011-800-2270-0722
initially with 6 NTSC colour bars
Occ FTA (Chile +); BIG power reduction Nov 03
Started 07-06; India test service
BBC World moved here January 2005
Subscriptions available; Strong Technology



**PACIFIC
SATELLITE**

(AUSTRALIA) PTY. LTD.

ANTENNA & RECEIVER SUPERMARKET



DYNASAT

7.5'/2.3m

Medium Duty

(Fine for most areas,
applications; economical,
general purpose use)

8'/2.44m

Heavy Duty

(For heavy wind areas)

ONE brand does NOT fit all requirements; at Pacific Satellite you have mega-choices!

Pacific Satellite is the **EXCLUSIVE** authorised **DISTRIBUTOR**
for **COMSTAR** antenna products in Australia.

Model ST-12



COMSTAR

Strong, heavy duty,
suitable for
cyclone areas!

**...is a registered trademark for the world's
BEST C/Ku rolled Expanded Metal 2 - 13
GHz antennas.**

Comstar products are simply unbeatable -
available from
3m to 4.5m and every one a winner!

Products are also available through this quality distributor:
V-Com (Australia) Pty Ltd (VIC) Tel: (03) 9886 8018
Fax: (03) 9886 8787

3/71 Beenleigh Road, Coopers Plains, Qld 4108 Australia

Ph: +61 7 3344 3883 Fax: +61 7 3344 3888

Email: info@psau.com <http://www.psau.com>

Bird	Service	RF/IF & Polarity	# Program Channels	FEC	Msym
(PAS2/169E)	Adventists.tv	4040/1010H	1	2/3	5(900)
	Feeds	3868/1182H	1	2/3	6(620)
	Feeds	3939/1211H	2 (typ NTSC)	2/3	6(620)/7(498)
	Cal PowVu	3901/1249H	up to 8	3/4	30(800)
	HK bouquet	3850/1300H	up to 8	2/3	24(900)
	Korean Bqt	3771/1379H	1	3/4	6(510)
AMC23/172E	Various-tests	12.730H	up to 8	3/4	30(000)
1804/174E	iPSTAR	12.619H	1	2/3	25(220)
	Tests-NZ beam	12.646H	1	3/4	22(418)
	RFO Poly	4027/1123R	1TV	3/4	4(566)
1701/180E	TNTV	11.060&11.514V	9	3/4	30(000)
	TVRFO	11.136V, 11.174V	6+TV, 3+ radio	3/4	23(149)
	Canal+Sat	11.610H	16TV, 1 radio	3/4	30(000)
	PBS	12.648HH	16TV possible	3/4	28(066)
	TVNZ/BBC	4186/964RHC	1	3/4	5(632)
	TVNZ	4178/972RHC	1	3/4	5(632)
	AFRTS DTS	4175/975L	3 TV, 3 radio	2/3	3(680)
	TVNZ/Aptn	4170/980RHC	1	3/4	5(632)
	Fiji Sky Pacific	4095/1055LHC	6TV + future radio	3/4	16(505)
	Fiji Sky Pacific	4055/1095LHC	7TV + future radio	3/4	16(505)
	TVNZ/feeds	4052/1098RHC	1	3/4	5(632)
	TVNZ feeds	4044/1106R	1	3/4	5(632)
	NBC to 7 Oz	3960/1190R	1	7/8	6(447)
	TBN Mux	3927/1223R	4TV	2/3	11(394)
	WorldNet	3886/1264R	1TV, 37 radio	3/4	25(000)
	Ioarana	3772/1378L	1	3/4	4(566)
	NASA TV	3854/1296R	1 TV	3/4	2(000)
	TVNZ	3846/1304R	1	3/4	5(632)
	NBA (Barker) Ch	3803/1347R	1	3/4	6(111)
	USA feeds	3749/1401R	4?	?	26(400)
NSS-5/177W	Pacific IP Data	3763/1387R	none-data	3/4	27(500)
	RFO/Tempo	3920/1230R	1	3/4	2(893)
	BYU-TV	4185/965R	1TV, 20+ audio	1/2	6(525)
	Australia Temp.	12.522V	8 SCPC	7/8 & 5/6	14.294 & 12.600
	Auckland Teleport	12.612V	1 SCPC	3/4	5(789)
	iPSTAR Tests	12.691V	8 TV	5/6	17(600)

Receivers and Errata

New December 2003; 24/7 "Hope Chs."
FTA (occ sport); also try 3863, Sr6.100
FTA-typ NTSC-occ sport, live Shuttle
PowVu CA + FTA (includes BBC-W 05-05)
was 4148Vt; some FTA
Korean MUX, reload 12-04; new Sr
Testing on NZ/East Australia beam
Tests, late May start; also 12.646H
Testing possible data links; June 2003
SE spot beam; was 4027LHC
east spot; 10TV + r each, vertical pol.
FTA 11.136 Tahitian beam, 11.174 west beam, 12/04
1+ FTA, MediaGd "2", + 10.975 weaker
Testing Fiji region pay-TV (MDS) package (Oct '04)
DMV/NTL early vers. occ feeds, typ ca
DMV/NTL early vers., occ feeds, typ ca
'DTS Direct to Sailors; audio previously FTA - gone
DMV/NTL early vers. occ feeds, typically ca
Nagrasvision CA (> Feb 1, 2005) New PIDS
All now (including Fiji 1) CA: 7 Feb, 2005)
DMV/NTL early vers., occ feeds, typ ca
SCPC, mixed CA and FTA feeds
CA, Leitch encoded
January 2006-now 4 channels, new Sr
New PIDs Dec 03 very strong NZ, Pacific
FTA SCPC; East Hemi Beam-Tahiti
24/7 live NASA - West Hemi bm (can be difficult!)
SCPC, mixed CA & FTA, feeds
NBA feeds - probably CA - new Nov 2003
16-QAM (not MPEG-2 compatible)
Data only but useful for dish alignment
Wallis & Futuna Island(s) service
Global beam - requires sizeable dish
Aust beam: 12.522, 538.555, 574.604, 621.639 & 657
NEW Sept 2006; MCPC coming
CA Tests - Taiwan TV; data coming?? (NZ beam)

MPEG-2 DVB Receivers: (Data here believed accurate; we assume no responsibility for correctness!)

AV-COMM R3100. FTA, excellent sensitivity (review SF May 1998); new version Sept. '99. AV-COMM P/L, 61-2-9939-4377.

AV-COMM Tiny Tot. FTA, 12Vdc operated, palm sized, low power consumption; review SF#120. Contact # above.

Coship 3188C. Review SF#107. Blind search FTA rcvr; works well. Phoenix Technology Group (www.phoenixsatellite.com.au) (Irdeto 2 as well as FTA versions)

Coship FTA, CA, HDD. Review SF#143, state of art functions, blind search. Phoenix (above). Satlink NZ, fax 64-9-814-9447.

Divitone: "Left-handed" review SF#115; does "code key" entry. Available <http://www.satmax.ws>

eMTech eM-100B (FTA), eM-200B (FTA + Clx2), eM210B (FTA + 2xCI + positioner); KanSat 61-7-5484 6246 (review SF#89)

eM-150/Homecast. FTA + embedded multi-format, review SF#144. Sciteq (61-8-9409-6677) and Kristal (61-7-4728 7704)

Fortec Star Lifetime. Two versions, both blind search, code-key programmable, one X 2 CI. Review SF#119. www.aDigitalLife.com

Homecast (em-150, eM-1150, eM-2150) series of FTA, CA, HDD state of art STBs, review SF#144. Sciteq (www.sciteq.com.au)

Humax ICRI 5400 (Z). Embedded Irdeto + 2 CAM slots; initial units had NTSC glitch, now fixed. Widely available; new software avail 04-04, SF#76.

Humax IRCI 5410 (Z). Adaptable version capable of holding multi-CA systems (SF#98, 99). Widely available; original importer Sciteq (www.sciteq.com.au).

Hyundai-TV/COM. HSS100B/G (Pacific), HSS-100C (China) FTA. Different software versions; 2.26/2.27 good performers, 3.11 and those with Nokia tuners also good; later 5.0 not good.

Hyundai HSS700. FTA, PowerVu, SCPC/MCPC. Review SF March 1999. Kristal Electronics, 61-7-4788-8902.

Hyundai HSS800CI. FTA, Irdeto (with CAM) + other CA systems, PowerVu, NTSC. Kristal Electronics, above; review SF#63.

INNOVIA IDS3088. Review SF#111. Blind search FTA receiver. High quality Irdeto; available Phoenix Technology Group, and Satmax (<http://www.satmax.ws>).

ID Digital CI-24 Sensor. New August 2003; new lower noise tuner, extra sensitivity; CI Interface slot Irdeto 1 & 2; review SF#109. Sciteq 61-8-9409-6677.

KSF-570 FTA digital receiver, import; KSC-570 adds CI x 2 (no test or user results available). Asoft Limited, 64-4-234-1096

KSC-N550H2 Premium Dual DVR' digital receiver (no test or user results available). Asoft Limited, 64 4 234 1096

MediaStar D7.5. New (May 00) single chip FTA; review June 2000 SF. MediaStar Comm. Int. 61-2-9618-5777 (www.mediastar.com.au)

MediaStar D10. FTA and Irdeto embedded CA. VG receiver; see review SF#96, August 2002. Contacts immediately above.

MultiChoice (UEC) 660. Essentially same as Australian 660, not grey market contrary to reports. Sciteq tel 61-8-9306-3738

Nokia "d-box" (V1.7X). European, FTA, may only be German language, capable of Dr. Overflow software. SF#95, p. 14.

Nokia 9200/9500. When equipped with proper software, does Aurora, originally did pay-TV services provided software has been "patched" with "Sandra" or similar program. See SF#95, p. 14, SF#96 p. 15. SatWorld 61-3-9773-9270 (www.satworld.com.au)

Pace DGT400/DVR500. Originally Galaxy (Now Foxtel+Austar). Irdeto, some FTA with difficulty (Foxtel Australia 1300-360818). UECs replaced.

Pace "Worldbox" (DSR-620 in NZ). Non-DVB compliant NDS CA including Sky NZ, no FTA; similar "Zenith" version (see SF#115, p. 15).

Phoenix 111, 222, 333 models (no longer produced). Service, backup - Phoenix Technology Group 61 3 9553 3399; www.phoenixsatellite.com.au

Pioneer TS4. Mediaguard CA (no FTA), embedded Msym, FEC, only for Canal+Satellite (AntenneCal ++687-43.81.56)

PowerVu (D9223, 9225, 9234). Non-DVB compliant MPEG-2 unless loaded with software through ESPN Boot Loader (see below). Primarily sold for proprietary CA (NHK, CMT etc). For service only - call Scientific Atlanta 61-2-9452-3388. For revision model D9850, see Scientific Atlanta (below).

PowTek. Blind Search Chinese sourced, field tests rate it highly. Source jason@ADigitalLife.com

Prosat 2102S. FTA SCPC/MCPC, NTSC/PAL, SCART + RCA. Sciteq 61-8-9306-3738.

SatCruiser DSR-101. FTA SCPC/MCPC, PowVu, NTSC/PAL. (Skyvision Australia 61-3-9888-7491, Telsat 64-6-356-2749); no longer available.)

SatCruiser DSR-201P. FTA SCPC/MCPC, PowVu, NTSC/PAL, analogue, positioner - (Skyvision - see above); no longer available.

SATWORK ST3618. Blind search FTA receiver. Fast search, problems, especially in "memory-filing" system; review SF#111. Available DMSi at tim@dmsiusa.com.

SATWORK ST3688. Blind search, 3000+ ch memory, multi-format RF modulator; improved version 3618. Review SF#113; available DMSi (above).

Scientific Atlanta D9223, D9234, D9225; Orig. PowerVu, superseded Dec 2003 by D9850. Commercial receiver, available TVO 61-2-9281-4481, John Martin

Strong Technologies SRT2620. SCPC, MCPC FTA, exc sensitivity, ease use, programming. Review SF#91 (ph. below).

Strong SRT 4600. SCPC, MCPC, PowerVu; exc graphics, ease of use, review SF#64. Strong Technologies 61-3-8795-7990.

Strong 4800. SCPC, MCPC, embedded Irdeto+ CAM slots, does code-key with additional software, Aurora. Strong Technologies 61-3-8795-7990.

Strong 4800 II. SCPC, MCPC CAM slots x 2 for Aurora +, Zee, Canal +, code key with additional software. Strong Technologies (above); review SF#103.

Strong 4890. SCPC, MCPC, 30Gb PVR, 2 CAM slots, DiSeqC 1.0, 1.2 (review SF#84), does code key with additional software; Strong Technologies, # above.

UEC Atlas/Titan (1000). New July 2003, replacing DGT400 for Austar. No SCART, L-band loop; also available Rural Electronics 61-2-6361 3636.

UEC642. Designed for Aurora (Irdeto), approved by Optus; w/new software, C-band FTA; faulty P/S. Norsat 61-8-9451-8300.

UEC660. Upgraded UEC642, used by Sky Racing Aust., Foxtel, limited FTA. (Nationwide - 61-7-3252-2947); P/S problems.

UEC700/720. Single chip Irdeto built-in design for Foxtel; unfriendly for FTA. Power supply problems, seldom sold to consumers; propensity to fall off back of trucks.

"X" Digital. When modified with "aftermarket" Internet softwre, does Aurora and other V-1 CA without card; review SF#119. Strong Technologies (61-3-8795-7990).

Accessories:

Aurora smart cards. MCRYPT (Irdeto V2) cards now available (Jan 2005), Sciteq 61-8-9409-6677.

PowerVu Software Upgrade: PAS-8, 4020/1130Hz, Sr 26.470, 3/4; pgm ch 11 and follow instructions (do not leave early!)

PowerVu (Pacific) repair service: Cable & Sat Svcs, Darius West, 61-2-9792-1421 (Email darius@cases.net.au)

WITH THE OBSERVERS

AT PRESS DEADLINE

Optus D1, replacement for B1 at 160E, scheduled Ariane launch date of September 19th (US DirecTV 9S will share launch) - that's 20th 'out here.' Allowing for positioning, check-out, logical B1 turnoff date will be between 15 & 30 October. Footprint map? Here SF#146.

AMC23/172E: "Australian Central 7 appeared here 12.744H, 5.100, 3/4 22 August having left B3." (IF, Qld.)

Intelsat 701/180E: Reminder: VOA/WorldNet will be gone from here after 30 September (3.886R); only AsiaSat 2 thereafter (3.880, 20.400, 1/2).

JcSAT10/125E: "Strong test carriers noted 3960V on 2.1m dish." (Donny, Victoria)

NSS5-177W: "Tony Dunnett's Auckland teleport uplink is on 12.612V, SR 5.789, 3/4. NASA-TV and other test feeds have been reported with promise of Apsattv created enthusiast programming 'soon.' SatFACTS will be supplying several dozen hours of industry programming as well, including SPACE Pacific Reports #1-14 on a schedule to be worked out and announced here. Most NZ receivers report strong signals on 60cm dish systems, no valid reports from Australia to date (the footprint is mighty tight going across 'the ditch')." (RBC)

Optus B3/152E: "Feeds noted during this reporting period - 12.390H, 5.423, 3/4 Imparja with hidden PIDs. Central 7 12.310H, 5.100, 3/4 has moved to AMC-23 (above). Sydney's ATN7 was running two news feed SCPCs: 'SNV Path 1' on 12.292H, 7.200, 3/4 along with '7 BCS Slot 6' on 12.301H, 7.200, 3/4. until August 28th - now gone. The ABC continues to run, often day long, backhaul feeds on 12.319H, 12.328H and 12.337H, 6.980, 3/4 although depending upon uplink site they may require a dish as large as 1.8m. On Saturday afternoons these feeds carry state Rugby matches. And, Network 10 runs an occasional SCPC on 12.400H - FEC 3/4 but the SR changes (sometimes within a feed) using numbers such as 7.220, 6.110 and 6.670." (IF, Qld.) "Globecast's TVN SCPC feeds on 12.553V have recently been down in level, especially those from WA; 6.670, 3/4. 'Sigram TV' (Indian pay TV) is once again CA after being FTA for a month (12.553V, 30.000, 2/3). 'Emmanuel TV', a Nigerian Christian service, moved from 12.12.525V to 12.563H (30.000, 2/3) during most of August, not seen since. 'CMC' which is Croatian music service, 12.563H, V=1760, A=1720; FTA. 'Safe TV' is a new test service on 12.563H, using same PIDs as previously in use by Emmanuel TV (V=1660, A=1520); appears to be US based Christian-family channel (www.safe.org), claiming world-wide coverage (less NZ of course)." (AI, NSW) "UBI has changed the PIDs T11/lower/12.425H (22.500, 3/4). A previously unused SID (63) is now active ('RCTG'), CA, Greek or Macedonian. UBI's tech still has not corrected 'SCTV' EPG label, continuing to call it 'Sydney Community Television' (should be 'Satellite Community Television'). UBI as of 3



NOT always as represented. Hollywood Movie service on TVUPlayer (p. 19) is in fact an almost endless series of infomercials. Movies? Well less than Grade B low budget - hardly worth your interest.

September currently runs following FTA: 'KTV' (Kurdistan TV) and 'SCTV' on 12.640H (22.500, 3/4) and 'Ch 72' (information) on 12.425H (22.500, 3/4). And radio, '2ME' (Sydney Arabic) on 12.701H (A=661) plus 'NTRC' (news, talk, country) on 12.425H (A=669) - this one is not ethnic, apparently a feed to terrestrial transmitters." (NS, Victoria)

Optus C1/156E: "Interference in the Imparja 'ICTV' supplemental channel (SF#144, p. 27) continues but only during Aboriginal oriented programming, suggesting a terrestrial link from a production centre may be source of the picture distortion." (IF, Qld.) "ESPN has moved from T15 to T13/12.398H (27.800, 3/4) V=1101, A=1102. 'Fox Sports News' is new on 12.478H (replacing ESPN which was there), V=1091, A=1092. And 'Fox Sports News Active' is new on 12.478H (V=1111, 3 audio PIDs 1112, 1113, and 1114). 'The History Channel' late in August swapped parameters with W ('Women'); History is now on T12/12.358H (V=1091, A=1092) while W is T17/12.558H (V=1101, A=1102). History-2 (delayed 2 hours for WA) is now replaced with W2 (T16/12.518H, V=1101, A=1102). (DM, NSW)

Soapbox: "A FreeView trademark registration has been accepted in New Zealand; registered owner is Satlink N.Z. Ltd. (trade mark # 751635)." (PE)

WITH THE OBSERVERS: Reports of new programmers, changes in established programming sources are encouraged from readers throughout the Pacific and Asian regions. Information shared here is an important tool in our ever expanding satellite TV universe. **Photos of yourself, your equipment** or off-air photos taken from your TV screen **are welcomed**. TV screen photos: If PAL or SECAM, set camera to f3.5-f5 at 1/15th second with ASA 100 film; for NTSC, change shutter speed to 1/30th. Use no flash, set camera on tripod or hold steady.

Alternately submit any VHS speed, format reception directly to SatFACTS and we will photograph for you. Deadline for October 15th issue: October 4th by mail or 5PM NZT October 5th if by fax to 64-9-406-1083 or Email skyking@clear.net.nz.

ONE STOP SOURCE FOR YOUR NEEDS!

Looking for hard-to-find European products?

New-technology Asian sourced goods?

We have the brand new SF-3000 meter in stock for immediate shipment to you!



Distributor pricing to bonafide dealers!

**JOHN's Electronics / PO Box 174, Albury, NSW
Tel 02-6041 3388, Fax 02 6041 3047, Mobile 0418 698 106. Web www.johnselectronics.com.au**

INSTALLING AURORA KITS?

Buy your kits from the people who have been solving television reception problems for over 40 years;
useful technical advice available!

The deal

- Genuine Optus approved UEC Model 910 IRD packed with 4 page out-of-area reception application
- LNB
- Optus Approved smartcard
- Includes report signal level calculator
- 90cm quality dish

All for \$428 plus GST and freight (90cm dish shipped, enclosed, in a strong cardboard box).

Trade installers, only, from:

RURAL ELECTRONIC PRODUCTS

"The Better Reception Centre"

315 Summer Street Orange NSW 2800
Phone (02) 6361 3636

SATELLITE TV IS A GREAT HOBBY - Let's not forget that!

Since 1976 we've been involved in satellite TV. A hobby in those early days, our interest led to establishment of a business in 1981 that has introduced thousands of people to the exciting world of satellite TV. We produced our first international satellite receiver kit in 1986, and the first DIY home satellite system in Australia back in the early days of 1990.

Along the way we have found that above all else, customer support is critical. If you look around the industry, you'll soon sort out those vendors who operate on a strictly commercial basis, and, those who really have your real hobby interests at heart.

That's why we have made it our priority to give you all of the information to help you make your hobby a success. So if you are contemplating Satellite TV as a hobby, give us a call; we'll help get you off on the best track. Who knows - you might even become a part of this growing industry!! You can count on our decades of experience to provide you with the best "right" solution at an affordable price.

AV-COMM Pty Ltd

P.O. Box 225 Brookvale NSW 2100 AUSTRALIA

Tel 61-2-9939 4377 Fax 61-2-9939 4376 or, visit our website at

<http://www.avcomm.com.au>

Email cgarry@avcomm.com.au

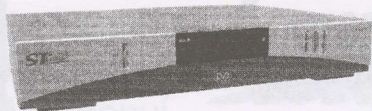
You are welcome to also visit our showroom (24/9 Powell's Rd, Brookvale NSW),
join our E-mail newsletter service (addme@avcomm.com.au)

(Av-Comm Pty Ltd ACN 004 174 478)

MELBOURNE SATELLITES

SINCE 1991

21 TURBO DRIVE, BAYSWATER VIC 3153
Ph. 61 (3) 9738 0888 Fax. 61 (3) 9738 0001
Email. sales@melbournesatellites.com.au



NEW

STGold ST2000F ST4000IR

ST2000F - FTA Digital Satellite Receiver:

Front Channel Display & Buttons, Dual Scart, RCA, S/PDIF, Dolby Digital, UHF RF Modulator, I/R Remote Control

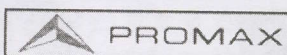
ST4000IR

FTA & IRDETO Embedded Digital Satellite Receiver:

Front Channel Display & Buttons, Smartcard Reader for Embedded IRDETO, Dual Scart, RCA, S/PDIF, Dolby Digital, UHF RF Modulator, I/R Remote Control

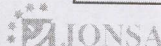
****Check our Website for further details****

www.melbournesatellites.com.au



GEOTRACK

Norsat
International Inc.



HUMAX
TOPFIELD
Multimedia Home Gateway



STGold A T E L L I T E E R R E S T R I A L

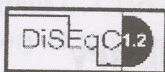
GEOTRACK

Actuator Arms

Light Duty 18" & 24"

Heavy Duty 24" & 36"

DiSEqC H-H



D-ST7 2.3Mtr Heavy Duty
D-ST10 3.0Mtr Heavy Duty



STI

Get direct access to Trade Prices by registering your details at
www.melbournesatellites.com.au
and click the register link on the left....

Satellite Interference Filters

*Eliminate
out-of-band
interference at your
C-band
receive antenna!
Available for all
international bands.*

*Distributor
Inquiries
Welcome*



MFC
Microwave Filter Co

MICROWAVE FILTER COMPANY, INC.

Tel 315-438-4700

FAX: 315-463-1467

E-Mail: mfcsales@microwavefilter.com

Web:

<http://www.microwavefilter.com>

TLC Topline Premium Cable

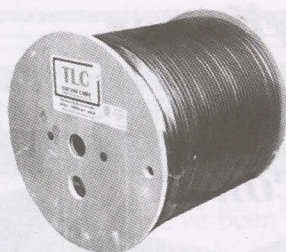
Foxtel & Austar Approved

Australia's only Premium Cable

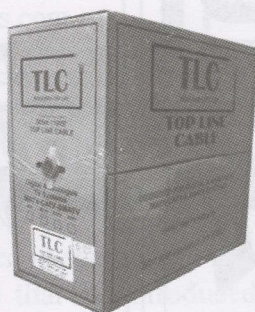


RG6 Quad Premium RG11 Quad Premium

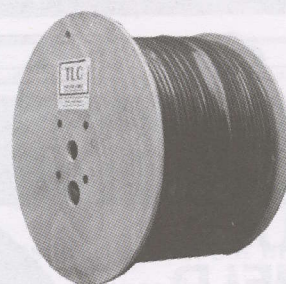
Both cables also available in flooded
100m, 305m, 500m Spools available



**RG6 Quad 305m
Wooden Spool**



**RG6 Quad 305m
Easy Pull "waxy" box**



**RG11 Quad 305m
Wooden Spool**

available in NZ south!

Available throughout Australia:

DJ Coulter Wholesale Divison Pty Ltd

Newcastle - Brisbane - Ballarat - Wyong - Albury

Sunshine Coast - Toowoomba & Selected Wholesalers

www.djcoulter.com.au Ph +61 249 671455 (Int'l) -1300 306729

Sir Arthur C Clarke

'LESLIE'S HOUSE', 25, BARNES PLACE, COLOMBO 7, SRI LANKA
PHONE: (9411) 2694 255, 2699 757, FAX: (9411) 2698 730

Bob Cooper
P O Box 330
Mangonui
Far North
New Zealand.

19 July 2006

Dear Bob,

Many thanks for the copy of *Television's Pirates* which has just arrived -- I can barely lift it!

I'm very glad you wrote your memoirs, because this is a fascinating collection of anecdotes and a vital part of the TV broadcasting and satellite communication history. It's a part that official writers and pure academic researchers may well underplay in their own accounts.

**"...a fascinating collection of anecdotes and a vital part
of the TV broadcasting and satellite communication history."**

In October 1945, (Sir) Arthur C Clarke conceptualised geostationary satellites - the precise placement of earth-orbiting 'in place' satellites equipped with solar-refreshing powering systems and microwave relay equipment capable of receiving earth-originated transmissions and rebroadcasting these signals to earth. Clarke's hypothesis appeared in British publication "Wireless World" and attracted but limited response. World War Two was barely completed, microwave technology was little understood while rocketry - the essential ingredient required to launch into orbit "radio relay stations," an even less mature technology. But this was the origin of satellite TV and from this technology paper would come the direct-to-home television we all enjoy today. **"Television's Pirates: Hiding behind your picture tube"** traces this development focusing on the individual creators who made it all work - the people who turned Clarke's theory into reality.

Sir Arthur C. Clarke and more than 700 other individuals are featured in "Television's Pirates." This is the true story of how the entire world reacted when Clark's hypothesis became fact. A typical reader response:

"I received 'Television's Pirates' today and as today is my day off, I managed to read the first chapters. It is really great - I have never read anything so detailed on the television (reception) business. Additionally, my CATJ + CSD set of DVDs have also arrived; I have not been this fascinated in ages! I am torn between the CATJ and CSD features and completing Television's Pirates!"

(James Stanley Barr, Frankston, Texas)

ONE complete package - 928 pages of text **and** two hours of original video - the way it all happened, *as it took place*.

SPECIAL PACKAGE PRICE!

"TELEVISION'S PIRATES: Hiding behind your picture tube"
"TVRO's Fifth Birthday" video

\$50 US

at the currency exchange rate for NZ (approximately NZ\$80) or Australia (approximately A\$66); adjusted at time of purchase to then-current exchange rate.

Postage paid for USA, NZ; plus postage for Australia and balance of world.

NOW - go to www.bobcooper.tv for this month's latest updates!

Ordering:

☐ "Television's Pirates" **plus** "TVRO's Fifth Birthday" video; US\$50, NZ\$80 including postage - A\$66 plus postage (rest of world - US\$50 plus postage).

☐ "Television's Pirates" - the book **only** - no DVD; US\$29.95 (postage paid inside USA - not including Canada), NZ\$48 including postage - A\$40 plus shipping charges (balance of world - US\$29.95 plus postage).

☐ **SUBSCRIPTION** to "SatFACTS Monthly" - 12 issues, this magazine. US\$75, NZ\$70, A\$96 including fast/airmail postage (starting October 2006 - issue # 146)

☐ **SatFACTS Anthology** CD - 12 full years covering #1 through #144, on DVD (first 10 years) and CD (years 11, 12); Acrobat Reader software required, otherwise insert and play on PC (not on your DVD player!). US\$50/A\$50/NZ\$40 via airmail, postage paid.

☐ **CSD + CATJ Anthology**. Two DVD set covering 19074 through 1987; the most complete source for the full development (and later demise) of the home-dish C-band world plus the conversion of cable TV to satellite. US\$/NZ\$A\$25, postage paid - an incredible bargain!

☐ Bob Cooper's **TV Reception Addendum**. Looking for the 'roots of TVRO,' intriguing designs for motel and household MATV-SMATV, very large antennas for deep-deep off-air terrestrial TV reception? That and much more is here in 26 separate publications married to a single CD. US\$/NZ\$/A\$25 postage paid.

Ship to:

Name _____ Company _____

Mailing address _____

Town/city _____ Postal code _____ State/Province _____ Country _____

Charge to:

☐ VISA ☐ Mastercard _____ - _____ - _____

Expires ____/____/____ Name as appears on card _____

Payment enclosed:

☐ Cheque/check enclosed (to SatFACTS) in amount of (see above for total) \$ _____

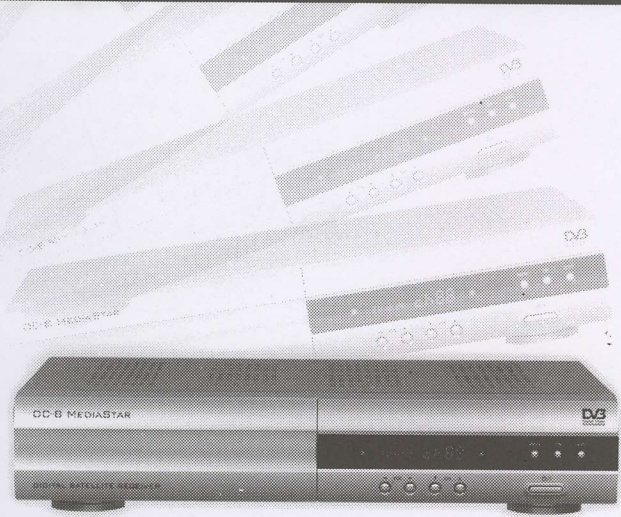
Placing Order:

FAX this order to ++64 9 406 1083, Email (break into two separate Emails for security of CC numbers) to skyking@clear.net.nz, telephone to ++64 9 406 0651
or post to SatFACTS, PO Box 330, Mangonui, Far North, New Zealand

THE DC-8 HAS LANDED



- 2 Slot common interface for Irdeto, Seca, Viaccess
- Symbol rate 2-45 MBPS
- Digital Audio AC-3 support by SPDIF
- S-Video output
- Close Caption subtitle and Teletex
- DiSEqC 1.0 and 1.2
- NTSC-PAL auto converting
- DSR to DSR copy



Tel: 02 9618 5777

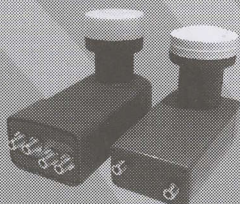
Fax: 02 9618 5077

www.mediastar.com.au



2.1m
2.3m
2.5m
3m
3.7m

Heavy Duty Frame
Stronger Mesh



11300 MHz L/O
Dual and Quad Output



Mustang Actuators
18", 24", 36", 56"



Aston Cams



EZ2000+
Positioner



Making communications shine. MediaStar

www.sciteq.com.au
sales@sciteq.com.au

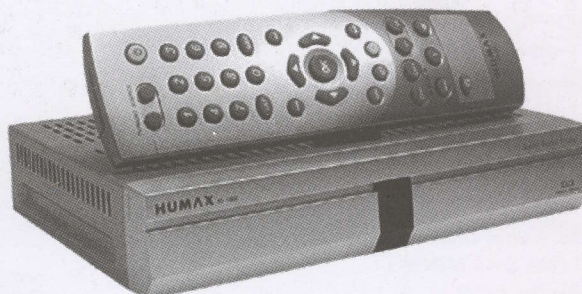
Ph: +61 8 9409 6677
Fax: +61 8 9309 5210

SCITEQ

Pty Ltd ABN 34 009 235 090

HUMAX

Humax F2-1002 FTA Digital Satellite Receiver



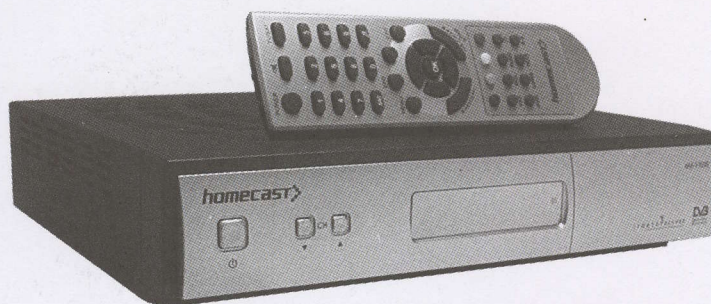
Stock No.
101010

Free to Air, Compact Design, Super Signal Finder, High Sensitive Tuner and USALS Capable at an Affordable Price

Order online at www.sciteq.com.au

Homecast eM-150IR Embedded Irdeto Satellite Receiver

NEW



Stock No.
101013

Embedded Irdeto Satellite Receiver,
Excellent Performance, Perfect for Optus C1 Aurora,
2 SCART & RCA, Toslink Optical Audio Out

homecast